

1st Biannual Report: The Early Action Compact for the San Antonio Metropolitan Statistical Area

June 2003

Prepared by the Alamo Area Council of Governments

**The First Draft version of this document was reviewed by the
Air Improvement Resources (AIR) Technical Committee on May 23, 2003
and by the AIR Executive / Advisory Committees on May 28, 2003.**

**This document, as a Second Draft, was reviewed and given final approval
by the AIR Technical Committee on June 6, 2003. This document was
approved as final by the AIR Executive / Advisory Committees on June 18,
2003.**

Final Document Due June 30, 2003

Title: Early Action Compact Biannual Report for the San Antonio Metropolitan Statistical Area		Report Date: June 2003
Authors: Natural Resources/Transportation Department		Type of Report: Semi-Annual or Biannual Report
Performing Organization Name and Address: Alamo Area Council of Governments 8700 Tesoro Drive, Suite 700 San Antonio, TX 78217		Period Covered:
Sponsoring Agency Name & Address: Texas Commission of Environmental Quality 12100 Park 35 Circle Austin, TX 78753		Approved by:
Supplementary Notes:	Date of Approval:	Reference No.:
Abstract: Protocol for the Early Action Compact (EAC) stipulates that areas participating in the compact will assess and report their progress against milestones every six months. The Clean Air Plan for the San Antonio Metropolitan Statistical Area (MSA) is responsible for detailing and demonstrating the MSA's commitment to achieving and maintaining the 8-hour ozone standard through regional voluntary efforts. The implementation of the Clean Air Plan occurs through progress against prescribed milestones stipulated by the Environmental Protection Agency on a set timeline. Several milestones were accomplished from December 2002 to June 2003, to include all emission inventory milestones, several modeling milestones, various control strategy milestones, and on-going progress against the public involvement milestone. The progress against the milestones are discussed in detail in fulfillment of EAC requirements.		
Related Reports:	Distribution Statement:	Permanent File: Alamo Area Council of Governments, Natural Resources / Transportation Department
Number of Pages:	Cost of Report:	Reproduction Cost:

Table of Contents

Chapter 1 – Introduction

- 1.1 Clean Air Plan
- 1.2 Planning Process
- 1.3 Biannual Report

Chapter 2 – Stakeholder Process

- 2.1 Stakeholders
 - 2.1.1 AIR Executive Committee
 - 2.1.2 AIR Advisory Committee
 - 2.1.3 AIR Technical Committee
 - 2.1.4 AIR Public Education
 - 2.1.5 Public Meetings/Clean Air Plan Workshops
 - 2.1.5.1 Preparation for the Public Meetings/Workshops
 - 2.1.5.2 Format of the Public Meetings/Workshops
 - 2.1.5.3 Question and Answer Period
 - 2.1.5.4 Formal Comment Period
 - 2.1.5.5 Follow-up after the Public Meetings/Workshops:

Chapter 3 – Early Action Compact Milestones

- 3.1 Control Strategy Development Milestones
- 3.2 Public Involvement Milestones
 - 3.2.1 Media
 - 3.2.2 Public Meetings
 - 3.2.3 Other Outreach Efforts
- 3.3 Emissions Inventory Milestones
 - 3.3.1 NET Emissions Inventory Milestone
 - 3.3.2 MOBILE6 & TDM Milestone
 - 3.3.3 Conceptual Model Milestone
 - 3.3.3.1 Air Monitoring & Analysis
 - 3.3.3.2 Regional Data
 - 3.3.3.3 Episode Selection
 - 3.3.4 NONROAD Model Milestone
 - 3.3.5 Emission Trend Analysis Milestone
 - 3.3.5.1 Methodologies for Projected Emission Inventories
- 3.4 Modeling Milestones
 - 3.4.1 September 1999 Photochemical Model
 - 3.4.1.1 Updates to the 1999 Simulation
- 3.5 Maintenance for Growth Milestones

Table of Contents (cont'd)

Chapter 4 – Conclusion

Appendix A – Draft Clean Air Strategy Matrix

Appendix B – AACOG Air Quality Outreach Efforts 2002-2003

Appendix C – Bylaws of the Air Improvement Resources Committee

List of Tables

Chapter 1- Introduction

None

Chapter 2 – Clean Air Plan

Table 2-1 Air Improvement Resources Executive Members

Table 2-2 Air Improvement Resources Advisory Members

Table 2-3 Air Improvement Resources Technical Members

Table 2-4 Dates and Locations of Public Meetings

Chapter 3 – Early Action Compact Milestones

Table 3-1 1999 VOC Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Table 3-2 1999 NOx Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Table 3-3 1999 CO Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Table 3-4 Conceptual Model Final Episode Selection Summaries

Chapter 4 – Conclusion

None

List of Figures

Chapter 1 – Introduction

None

Chapter 2 – Clean Air Plan

None

Chapter 3 – Early Action Compact Milestones

Figure 3-1 Map depicting counties which were updated with MOBILE6

Figure 3-2 Monitoring Station Locations in the San Antonio Airshed

Figure 3-3 Daily 8-Hour Ozone Maximums v. Peak Temperature, 1998-2002
Ozone Seasons

Figure 3-4 Daily 8-Hour Ozone Maximums v. Average Wind Speeds, 1997-2002
Ozone Seasons

Figure 3-5 Daily 8-Hour Ozone Maximums v. PM 2.5, 2000-2002 Ozone Seasons

Figure 3-6 Comparison of Daily Ozone 8-Hour Maximums and Daily Precipitation

Totals, 1999-2002 Ozone Season

Figure 3-7 Comparison of Daily Ozone 8-Hour Maximums and Solar Radiation
Daily Maximums, 1999-2002 Ozone Season

Figure 3-8 Hourly Maximum PM 2.5 and 8-Hour Average Ozone in San Antonio,
2002 Ozone Season

Figure 3-9 1997-2002 Pattern of Air Parcel Paths Arriving in San Antonio

Figure 3-10 High Ozone Readings by Two-Week Period of Region

Chapter 4 – Conclusion

None

Executive Summary

Local elected officials, concerned leaders in business and industry, and other citizens committed to air quality planning have worked together for years to create an air quality plan for the citizens of the San Antonio region. The Air Improvement Resources Committee of the Alamo Area Council of Governments (AACOG) has proactively created an air quality plan that is comprehensible, flexible, and relies on Environmental Protection Agency (EPA)-approved technical analysis for its control strategy recommendations. The Clean Air Plan was designed to enable a local approach to ozone attainment and to encourage early emission reductions that will help keep our area in attainment of the 1-hour ozone National Ambient Air Quality Standard (NAAQS) and attainment of the 8-hour ozone NAAQS, and so protect human health.

The objective of the Biannual Report is to provide descriptions and insights into the development of the Early Action Compact (EAC) for the San Antonio Metropolitan Statistical Area (SA/MSA). The EAC for the SA/MSA, the foundation of the Clean Air Plan, is designed to develop and implement control strategies, account for growth, and achieve and maintain the 8-hour ozone standard. The Clean Air Plan presents voluntary initiatives aimed at reducing ozone precursor emissions in the SA/MSA, comprising Bexar, Comal, Guadalupe, and Wilson Counties.

The purpose of the report is describe the progress against milestones prescribed by the EAC. Progress must be reported every six months once an area has opted into an EAC. Achievement of milestones is given on a set timeline to ensure adequate progress in the development of the compact as well as ensure achievement of attainment standards. The milestones include the completion of emission inventories and modeling, adoption of control strategies to demonstrate attainment, public involvement, and account for maintenance of growth.

Emission Inventory Milestones include the development of an updated base case inventory with emissions estimates developed with the MOBILE6 model and the NONROAD model, development of a Conceptual Model based on EPA guidance, and the creation of an Emissions Trend Analysis. The Milestones for Modeling include the development of State Implementation Plan (SIP) quality modeling episodes, which include base and future case scenarios. Control Strategy Development Milestones involve analyzing local controls that will assist in demonstrating 2007 attainment of the 8-hour ozone standard. Public Involvement Milestones are achieved through educational efforts and citizen involvement during the development of the Clean Air Plan. The last milestone is the Maintenance of Growth Milestone, which addresses emissions growth at least five years beyond the attainment deadline of December 31, 2007.

Chapter 1 – Introduction

San Antonio, Texas is currently the largest corporate city in the nation that has not been designated in non-attainment for criteria pollutants under the NAAQS. However, during the ozone seasons of 2000 through 2002, local air quality monitors recorded ozone levels above the concentrations allowed under the 8-hour ozone NAAQS. Moreover, in June of 2002, area monitors recorded some of the highest 8-hour and 1-hour ozone values on record since 1998¹. Since EPA guidance suggests that the boundary of the Metropolitan Statistical Areas be considered as the boundaries for new 8-hour ozone non-attainment areas, air quality planning has focused on Bexar, Comal, Guadalupe and Wilson Counties, which constitutes the SA/MSA.

1.1 Clean Air Plan

The Early Action Compact is designed to develop and implement control strategies, account for growth, and achieve and maintain the 8-hour ozone standard. This approach offers a more expeditious time line for achieving emission reductions than the EPA's draft 8-hour implementation rulemaking², while providing "fail-safe" provisions for the area to revert to the traditional State Implementation Plan (SIP) process if specific milestones are not met. In general, these early action plans will include all necessary elements of a comprehensive air quality plan, but are tailored to local needs and driven by local decisions.

The Clean Air Plan provides for the adoption of the EAC, which facilitates early voluntary 8-hour ozone NAAQS air quality plans in a manner consistent with applicable local, state, and federal air quality policy and which follows the guidance provided by the EAC protocol. The EAC protocol as endorsed by the EPA is attached, and the Clean Air Plan is designed to embody and fulfill all requirements of the protocol.

The Clean Air Plan is designed to be a working document providing comprehensive planning for the ozone challenge faced by the citizens of the entire SA/MSA. Adoption of the draft Clean Air Plan requires development of control strategies, or methodologies for lowering ozone concentrations to acceptable levels, which are designed to meet the region's clean air challenge. The technical analysis of the photochemical modeling, used

¹ On June 24, 2002, the CAMS 23 monitor, located near Marshall High School in San Antonio, recorded a 1-hour average ozone value of 126 parts per billion (ppb), an exceedance of the 1-hour ozone NAAQS. The most recent exceedance of the 1-hour standard prior to this date was 141 ppb recorded September 4, 1998 at CAMS 58 in Camp Bullis. Also on June 24, 2002, the CAMS 23 monitor recorded an 8-hour average ozone reading of 110 ppb, an exceedance of the 8-hour average ozone NAAQS. The most recent 8-hour reading prior to this date above 100 ppb was a reading of 110 ppb recorded September 4, 1998 at CAMS 58 in Camp Bullis.

² "Proposed Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard," released May 14, 2003. Available online <http://www.epa.gov/airlinks/ozoneproposedrule.pdf>

to demonstrate the effectiveness of the control strategies, is performed by the staff of AACOG and is reviewed and approved by the Air Improvement Resources (AIR) Committee, the staff of AACOG, the TCEQ, and the EPA.

1.2 Planning Process

The AIR Committee of the AACOG is the local entity charged with oversight and coordination of the development of the Clean Air Plan for the SA/MSA. The AIR Committee assesses and reports the region's progress against milestones with deliverables sent to TCEQ and the EPA and reported in a regular, public process, at least every six months. Public reporting of assessment and progress against milestone occurs at least once every six months during the regularly scheduled, Public Meetings (scheduled on a monthly basis), of the joined AIR Executive/Advisory Committees of the AACOG. Every meeting of the AIR Executive and Advisory Committees is a public meeting, with notification of the meeting time and location published by AACOG according to the Texas Open Meetings Act. AACOG provides notice of each meeting to the secretary of state, the county clerk of Bexar County, and posts notice in AACOG's main administrative offices in a place readily accessible to the general public at all times for at least 72 hours before the scheduled time of the meeting. (Although the AIR Executive and the AIR Advisory Committees are separate committees, they typically hold joint committee meetings at least once a month. In each case, the notification process is as described above.) The AIR Executive Committee is the planning committee for air quality planning under the Early Action Compact in the San Antonio region. The AIR Executive Committee's meetings satisfy the requirement in the EAC that planning meetings will be open to the public, with posted meeting times and locations.

The AIR Committee is pleased to engage with local citizens, the EPA and the Texas Commission on Environmental Quality in the planning effort required to successfully develop a Clean Air Plan for the SA/MSA. From the point of view of the AIR Committee, this Clean Air Plan is the culmination of years of effort and planning, which has been made possible through enabling funding provided by the Legislature of the State of Texas.

1.3 Biannual Report

As required by Early Action Compact (EAC) Guidance, areas which are participating in early voluntary 8-hour air quality plans must assess and report their progress in achieving EAC milestones in a regular, public process every six months. This biannual report will fulfill this requirement for the SA/MSA as the first progress report since the signing of the Clean Air Plan for the San Antonio area on December 9, 2002.

The milestones in this report which are described in the EAC are:

- Completion of emissions inventories as outlined in section b), Emissions Inventory;
- Completion of modeling as outlined in section c), Modeling;
- Post-attainment demonstration and plan updates as outlined in section e), Maintenance for Growth;
- Continuing public involvement in the planning process will be conducted as outlined in section f), Public Involvement. This is in addition to the public reporting conducted at least once every six months, as outlined above;
- Identification and description, by no later than June 16, 2003, of local control strategies under then-current **consideration** for inclusion into the area's local clean air plan, including those analyzed in modeling. This will be combined with the first biannual report of assessment and progress against milestones, as outlined above;

In addition, Lydia Wegman, Director of Air Quality Strategies and Standards Division of the US Environmental Protection Agency, signed a memo providing guidance on the content required in the biannual reports due in June and December of 2003. Through this memo, the EPA requires certain elements be incorporated into the report.³ The reporting requirements given in both the EAC and the Wegman memo have been organized in the following chapters of this report. These additional elements include:

Chapter 2 – Stakeholders: Roles and Responsibilities

Chapter 3 - Evaluation and Selection of Emission Reduction Measures

Milestone: Identification and description, by no later than June 16, 2003, of local control strategies under then-current consideration for inclusion into the area's local clean air plan, including those analyzed in modeling.

Chapter 4 - Public Outreach Activities

³ "Early Action Compacts (EACs): The June 16, 2003 Submission and Other Clarifications," Lydia N. Wegman, Director Air Quality Strategies and Standards Division, April 4, 2003. US Environmental Protection Agency, Research Triangle Park, NC 27711.

Milestone: Continuing public involvement in the planning process will be conducted as outlined in section f), Public Involvement.

Chapter 5 - Update on Modeling and Technical Planning Activities

Milestone: Completion of emissions inventories as outlined in section b), Emissions Inventory

Milestone: Completion of modeling as outlined in section c), Modeling

Milestone: Post-attainment demonstration and plan updates as outlined in section e), Maintenance for Growth

Chapter 2 –Stakeholders: Roles and Responsibilities

2.1 Stakeholders

Stakeholders for the Clean Air Plan include local governments, businesses, industries, schools and citizens within the San Antonio MSA. The AIR Committee (AIRCO) enables area governments and industrial groups to participate in addressing air quality concerns in the San Antonio MSA. The AIR Committee of the Alamo Area Council of Governments is the local entity charged with oversight and coordination of the development of the Clean Air Plan for the SA/MSA and thus the region's progress against milestones. The AIR Committee is comprised of the Executive/Advisory, Technical, and Public Education Committees.

2.1.1 AIR Executive Committee

The AIR Executive Committee is comprised of local elected officials and representatives of major government organizations from the four county metropolitan statistical area. County governments are represented by elected County Judge or County Commissioner and municipal governments are represented by an elected official serving as Mayor or City Councilperson. Other entities serving on the AIR Executive, as designated by the bylaws, shall appoint one representative to serve on the committee. The following table lists agencies for AIR Executive memberships.⁴

Table 2-1 Agencies for AIR Executive Membership

Air Improvement Resources Executive Member Agencies	
Bexar County	City of San Antonio
Comal County	City of New Braunfels
Guadalupe County	City of Seguin
Wilson County	City of Floresville
Greater Bexar County Council of Cities	Alamo Area Council Of Governments
San Antonio / Bexar County Metropolitan Planning Organization	

2.1.2 AIR Advisory Committee

The AIR Advisory Committee acts as a liaison between the AIR Executive Committee and public and private citizens. Membership of the AIR Advisory Committee will include AIR Executive Committee membership. The committee is comprised of representatives from local governmental entities and industrial

⁴ Bylaws of the Air Improvement Resources Committee of the Alamo Area Council of Governments

groups within the San Antonio MSA. AIR Advisory membership may be extended to representatives listed below.⁵

- Business representatives
- Environmental Groups
- Education agencies
- Transportation organizations
- Utilities
- Industry representatives
- Chambers of Commerce
- Health Organizations
- Neighborhood Organizations
- Other elected officials
- Minority Organizations

The following table lists the business, industry, and other groups from which the current members to the AIR Advisory Committee are drawn.

Table 2-2 AIR Advisory Member Agencies

Air Improvement Resources Advisory Member Agencies
HEB
Kendall County
S.A. Manufacturers Association
VIA Metropolitan Transit
Holt Company
Neighborhood Associations
New Braunfels Chamber of Commerce
City of Seguin
Valero
USAA
American Lung Association
TxDOT
Zachry Construction
Word Construction Company
Lackland ISD
City Of San Antonio
SAWS
Martin Marietta
Guadalupe County
Texas State Inspection Association
Northside ISD

⁵ Ibid

2.1.3 AIR Technical Committee

The AIR Technical Committee provides recommendations and technical assistance on air quality technical issues to the AIR Executive Committee. The members of the committee are representatives of local planning agencies. AIR Executive Committee can designate other agencies for membership into the Technical Committee. Agencies currently providing members to the AIR Technical Committee are listed in the table provided.⁶

Table 2-3 AIR Technical Member Agencies

Air Improvement Resources Technical Committee Member Agencies	
Alamo Area Council of Governments	Metropolitan Planning Organization
Bexar County	City of New Braunfels
City Public Service	City of San Antonio
Comal County	City of Seguin
City of Floresville	Texas Commission on Environmental Quality (ex-officio)
Guadalupe County	TxDOT District Office
Metropolitan Health District	US Environmental Protection Agency (ex-officio)
VIA Metropolitan Transit	Wilson County
Texas State Inspection Association (ex-officio)	

2.1.4 AIR Public Education Committee

The AIR Public Education Committee provides stakeholders with the opportunity to participate monthly in the development of materials, advertisements, activities, and events aimed at educating the public about regional air quality issues and Clean Air Plan development.

2.1.5 Public Meetings/Clean Air Plan Workshops

Although the EAC requires one meeting every six months⁷, AACOG has held one public meetings every month for the first six months of 2003. Hence, by June 16,

⁶ Bylaws Air Improvement Resources Committee of the Alamo Area Council of Governments

⁷ "Public reporting of assessment and progress against milestones will occur at least once every six months during the regularly scheduled, public meetings (scheduled on a monthly basis), of the joined AIR Executive/Advisory Committees of the AACOG... The reports made during these meetings satisfy the public reporting requirements of the Early Action Compact protocol." Chapter IV. The Early Action Compact, a) Milestones and Reporting, online as <http://www.aacog.com/cap/CAP2002.html#4a> (<http://www.aacog.com/cap/CAP2002.html> - 4a)

2003, the public will have had a chance to familiarize themselves with the process and goals of the project.

Beginning in June, Clean Air Plan Workshops will be held. The format of the Clean Air Workshops will differ from the public meetings in that they will be divided into two parts: a question and answer session and a formal comment period.

Goals:

- Education - The public meetings and future workshops are designed to give the public background information and updates on topics such as air quality health issues, applicable federal and state law, current/historic ozone levels, the local response provided by the Early Action Compact. Other background may include an explanation of the EAC, the concept of control strategies, the current status of the plan, the role of local elected officials, of AACOG's committees, of the public, of the state and federal governments, timelines, deliverables under the EAC, etc.
- Communication of public opinion / feedback to the elected officials - Written comments and a synopsis of spoken comments will be provided to the elected officials in the AIR Committee.

Public Meeting/Workshop Design:

The Public Meetings had three basic components:

- 1) Presentation by AACOG staff,**
- 2) Spoken Response and Comments Made by the Public during a Formal Comment Period, and**
- 3) Collection of Written Responses from the Public.**

The Workshops will have four basic components:

- 4) Questions and Answers between AACOG staff and the public,**
- 5) Presentation by AACOG staff,**
- 6) Spoken Response and Comments Made by the Public during a Formal Comment Period, and**
- 7) Collection of Written Responses from the Public.**

Public Meeting/Workshop Schedule:

Table 2-4 Dates and Locations of Clean Air Plan Public Meetings/Workshops

Date	Location
January 22, 2003	Alamo Area Council of Governments, 8700 Tesoro Suite 100, San Antonio, TX 78217
February 22, 2003	Alamo Area Council of Governments, 8700 Tesoro Suite 100, San Antonio, TX 78217
March 19, 2003	Landa Haus, Landa Park, New Braunfels
April 12, 2003	Seguin City Council Chambers, 210 E. Gonzales, Seguin, Texas
May 20, 2003	Criminal Justice Center, 800 10th Street, Floresville, TX
June 14, 2003	Alamo Area Council of Governments, 8700 Tesoro Suite 100, San Antonio, TX 78217

Future Scheduling Considerations:

Public Meeting/Workshop dates and times have been based on feedback from the public as given during the first two meetings. The Public Meetings/Workshops have been scheduled on workweek evenings alternating with Saturday mornings. These workshops, in addition to all the regularly scheduled AIR Committee meetings, provide a solid basis for public education, process access and comment.

2.1.5.1 Preparation for the Public Meetings/Workshops

- Staff will prepare a list of topics to be covered during a given Public Meeting/Workshop. Input regarding which topics are chosen will be welcomed from the Public, the AIR Committee members and any other stakeholders.
- Staff will prepare a comment sheet specific to the Public Meeting/Workshop. That is, for each topic to be discussed during the Workshop, the topic will be written down on a handout sheet with adequate room left to write in comments and responses. The handout sheet will be a succession of topics and blank spaces, with a final space left for Other Comments.

2.1.5.2 Format of the Public Meetings/Workshops

- AACOG staff – including the Natural Resources Director and Public Education Chair – will host the Workshops. (There may be some variance in staff.)

- The Public Meetings/Workshops will be advertised in the San Antonio Express-News, New Braunfels Herald-Zeitung, Seguin Gazette-Enterprise, and Wilson County News newspapers once before any given Workshop. Other notification will be by email. All AIR Committee members are and will be invited.
- AACOG staff will coordinate the Public Meetings/Workshops, give status reports/updates /presentations, coordinate and signup and time the speakers, be sure the written questions are taken up properly, etc.

2.1.5.3 Question and Answer Period

- Beginning with the Workshop of June 14, 2003, the Workshops will begin with a question and answer session lasting one hour.
- Those wishing to ask questions will sign up on a list and be given a number; questions will be taken in order of signup and each person will be allowed one question.
- After asking a question, the speaker must wait until others have posed their question before asking a different question.

2.1.5.4 Formal Comment Period

- The Question and Answer session will be followed by Staff presentations / updates.
- The Staff presentations / updates will be followed by a formal comment period.
- Those citizens wishing to speak during the formal comment period will sign up on a list; spoken comments will be taken in order of signup.
- 3 minutes per speaker will be allowed, timed with a stopwatch, with the allowance for two other scheduled speakers to donate their time to another speaker, thus allowing a maximum of nine minutes for an individual speaker.
- Written comments recorded on the comment sheets described above will be taken up during the entire proceeding.
- This Formal Comment Period will last one hour.

2.1.5.5 Follow-up after the Public Meetings/Workshops:

- Staff will collect whatever written responses that the public has to a particular topic or discussion point.
- Staff will prepare a synopsis of spoken comments offered by the Public during the Formal Comment Period. Each Public Meeting/Workshop will be recorded on audiotape.
- Staff will present these written responses and the synopsis of spoken comments gathered from the most recent Public Meeting/Clean Air Plan

Workshop as a report to the AIR Executive/Advisory Committees during their regularly scheduled monthly meetings.

The elected officials may or may not generally be present. The goal of these Workshops is not to convene a governmental body that will discuss and debate issues and/or ratify binding policy decisions during the meetings. Rather, the stated goal of these Public Meeting/Workshop, as listed above, is to educate and give updates to the public, listen to public comment, and take responses to the elected officials from the public. The transcript from the Formal Comment period, the written comments and the email comments received from these Workshops will be delivered to the elected officials on the AIR Executive Committee for their deliberation and discussion. Decisions are made during the AIR Exec/Advisory Committee meetings, which are public meetings as well.

2.2 Stakeholder Roles

Roles of the AIR Committee

The AIR Committee is composed of several committees: AIR Executive, AIR Advisory, AIR Technical, and AIR Public Education Committee. The mission of the AIR Committee is to facilitate the completion of the air quality studies, complete necessary planning activities, and develop a comprehensive emission reduction plan that will guide our region's actions to attain the 8-hour ozone NAAQS.

The AIR Committee is required to provide a list of clean air strategies and combinations which will achieve attainment within the required time frame as well as work directly with the Texas Commission on Environmental Quality (TCEQ) on preparation and approval of the State Implementation Plan for our region.

There are several objectives required of the AIR Committee, one being to complete required planning materials such as a general emissions inventory and regional photochemical modeling with clean air strategies. The AIR Committee is also responsible of reviewing EPA's proposed requirements and implementation of alternative air quality classification choices as well as provide public information. AIRCO welcomes and seeks public input relating to current and future measures to improve air quality.

Roles of the Public

Public participation is an integral part of the Clean Air Plan, thus various avenues must be provided to enable citizens to have access to the development process. Every citizen in the region has three avenues they can partake in: 1) AIR Committee public meetings, 2) public meetings and upcoming Clean Air Plan Workshops, and 3) responding to the AACOG website.

- 1) Citizens can participate in the process of developing the Clean Air Plan by attending AIR Committee monthly meetings and speaking during the “Citizens to be Heard” agenda item. During this agenda item, citizens are given the opportunity to make formal comments in an allotted three-minute timeframe. Citizens who are making comments can speak for a total of nine minutes, with the possibility for an additional six minutes if two other citizens are willing to donate their comment time.
- 2) Public participation may also be practiced by attending monthly Public Meetings. These workshops are being held within each of the four counties of the metropolitan area. The meetings allow citizens to communicate their comments and responses to presentations by speaking to that group, submitting written comments during the workshops, or by sending letter or email containing the comments. Spoken comments are transcribed verbatim with copies of written comments, if provided to AACOG staff in electronic or written form. These comments are distributed to elected officials during the following AIR Committee meeting.

Beginning in June 2003, instead of public meetings, Clean Air Plan Workshops will be held in each county of the San Antonio Metropolitan Statistical Area. The format of the Clean Air Workshops will differ from the public meetings in that they will be divided into two parts: a question and answer session and a formal comment period. The first hour of the workshop will allow citizens to ask questions directly of the AACOG Natural Resources staff that supports AIR Committee and receive answers to those questions, as best staff can provide them, on the spot. During the second hour, citizens will be able to participate in a formal comment period in which each citizen will have three minutes to express their comments, with the possibility for an additional six minutes if two other citizens are willing to donate their comment time. All formal comments will be transcribed verbatim and provided to the elected officials at the next AIR Committee meeting.

- 3) Citizens may also participate by sending comments directly from the AACOG website <http://www.aacog.com/cap/>. The webpage is designed to enable AACOG to receive direct input from concerned citizens. Citizens may also email the Director of Natural Resources in AACOG, Peter Bella at pbella@aacog.com or the Natural Resources/Transportation Coordinator Dorothy Birch at dbirch@aacog.com.

Chapter 3 – Early Action Compact Milestones

3.1 Control Strategy Development Milestones

Achieving attainment of the 8-hour ozone standard will be achieved through the implementation of emission reducing control strategies. Control strategies aimed at reducing emissions from various sources, such as transportation sources, area sources, and point sources were considered and analyzed based on their emission reducing capacity and cost of implementation. The AIR Technical Committee and the AIR Executive Committee reviewed numerous strategies aimed at reducing emissions and assisting the SA/MSA in reaching attainment of the 8-hour ozone standard. The strategies are assessed based on the criteria of creditability (quantifiable, enforceable, and permanent) and effectiveness at reducing ozone precursors while being cost efficient.

An extended list of possible control strategies was presented to the AIR Technical Committee. The AIR Technical Committee was tasked to analyze the list of control strategies and select control strategies that would effectively reduce emissions and achieve the 8-hour ozone standard. The AIR Technical Committee meets twice a month to discuss various technical issues and review the list of control strategies. The committee considered several factors when analyzing various control strategies. These factors included whether the strategies were currently implemented in the area, the effectiveness of the emission reducing strategies implemented in other areas, the feasibility of emission reducing capacity in the San Antonio MSA, and possible costs associated with strategy implementation.

The AIR Technical Committee provided draft copies and reports of the progress of control strategy selection to the AIR Executive Committee throughout the selection process. The AIR Executive Committee would then provide comments to the AIR Technical Committee.

A detailed list of control strategies was identified for inclusion into the area's local clean air plan in June 2003, as prescribed in the Clean Air Plan, Ch. IV (a). The finalized list will be incorporated in an early action SIP by December 31, 2004.

3.2 Public Involvement Milestones

Educating the public about the importance of the region's air quality has been an important milestone since well before the signing of the Clean Air Plan in December 2002. Outreach and education efforts continue within the MSA, often through partnerships with other governmental entities and industrial leaders in the area. As the

Clean Air Plan is developed, citizens and citizen groups are given the opportunity to be involved in the Clean Air Plan development process.

3.2.1 Media

Local media efforts have played an important role in notifying the public about the development of the Clean Air Plan as well as in educating the public on the state of the region's air quality and how air quality affects respiratory health. Television, radio, newspapers, and websites have been avenues through which information about the Clean Air Plan and the MSA's air quality have been dispersed. The results of a local outreach survey preliminarily indicated that the public believed newspapers, television, and radio as trusted sources of information. Thus, press releases and public service announcements have been utilized to continue educating the public about the Clean Air Plan and air quality issues. As of the beginning of June 2003, there have been 15 television pieces, 15 radio pieces, and 33 newspaper pieces relaying information to the public regarding the Clean Air Plan and educational efforts.

3.2.2 Public Meetings

As stipulated in the Texas Open Meetings Act, the AIR Committee meetings are open for public participation. Monthly Public Meetings have also been held to update the public on the progress of the Clean Air Plan as well as other comments and questions from the public. To date, there have been six Public Meetings held in the various counties of the MSA.

3.2.3 Other Outreach Efforts

Non-media related outreach efforts continue. Seventeen governmental, business, and/or civic group presentations have been provided. AACOG staff also provides presentations to schools and has given nine of such presentations to area school children, reaching approximately 1,000 students. Whenever possible, AACOG coordinates and/or participates in public events such as Ozone Season Kickoff, which occurs annually on the last weekend of March. Such events allow AACOG staff to educate citizens on how everyday actions contribute to air pollution and that alternate methods of doing the same tasks can help reduce emissions. Nine internet pieces have also assisted in reaching the public audience regarding air quality issues.

3.3 Emissions Inventory Milestones

Updates to modeling and technical projects necessary for proper development of the Clean Air Plan must be reported in order to successfully achieve set milestones. There are several key elements necessary to contribute to the success of the Clean Air Plan.

3.3.1 NET Emissions Inventory Milestone

The 1999 NET Emissions Inventory is based on average ozone seasonal data for countywide estimation of the emissions. These emission were also geocoded to 4 km photochemical modeling grids. The inventory provides a vast database of the many pollution sources, their emissions, and emissions rates. Such a database is useful to planners, political officials, and common citizens in understanding the air quality situation as well as be used for the planning and management process.

The emission inventory comprises six categories of emission sources. These include biogenic sources and five anthropogenic sources: point, on-road, non-road, area, and airport/military sources. The inventory evaluates the emission sources in Bexar, Comal, Guadalupe, and Wilson counties. The ozone precursors of volatile organic compounds (VOC), nitrous oxides (NOx) and carbon monoxide (CO) are identified and quantified in the emission inventory. To accomplish this, EPA guidance was consulted and, when time or other constraints permitted, EPA's preferred methodology was used to develop emission estimations. The following tables list the emissions from each source in their respective counties.

Table 3-1 1999 VOC Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Category	Bexar	Comal	Guadalupe	Wilson
On-Road	63.69	5.26	5.07	1.24
Non-Road	35.751	2.565	2.347	0.700
Point	6.306	0.521	0.463	0.009
Airport/Military	3.444	0.002	0.009	0.000
Area	75.552	3.729	5.493	2.839
Biogenic	60.107	56.527	83.601	62.754
Total	244.850	68.604	96.983	67.363

Table 3-2 1999 NO_x Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Category	Bexar	Comal	Guadalupe	Wilson
On-Road	121.44	10.88	9.86	2.24
Non-Road	42.076	3.306	4.683	0.848
Point	83.911	12.164	0.492	0.004
Airport/Military	9.818	0.001	0.001	0.000
Area	4.736	1.134	2.600	2.013
Biogenic	4.993	1.541	7.520	6.521
Total	266.974	29.026	25.156	11.626

Table 3-3 1999 CO Emissions by Source Category for Each of the Counties
(tons per day for Average Ozone Weekday)

Category	Bexar	Comal	Guadalupe	Wilson
On-Road	706.16	58.90	57.67	11.36
Non-Road	434.238	30.427	28.680	8.157
Point	17.936	6.015	1.303	0.005
Airport/Military	16.680	0.0003	0.262	0.000
Area	4.546	0.116	0.060	0.706
Biogenic	0.000	0.000	0.000	0.000
Total	1179.560	95.458	87.975	20.246

3.3.2 MOBILE6 and TDM Milestone

MOBILE6 is used to predict emissions from on-road motor vehicles. All on-highway vehicles types can be modeled, including heavy-duty and light-duty vehicles, buses, motorcycles. The MOBILE6 program estimates volatile organic

compound (VOC), carbon monoxide (CO), and oxides of nitrogen (NOx) emission factors for gasoline-fueled and diesel highway motor vehicles.

MOBILE6.2 estimates current and future emissions from highway motor vehicles. It calculates average in-use fleet emission factors for the following:

- Three criteria pollutants: HC, NOx, and CO
- Gas, diesel, and natural-gas-fueled cars, trucks, buses, and motorcycles
- Calendar years between 1952 and 2050.

MOBILE6 was designed by the Environmental Protection Agency (EPA) to address a wide variety of air pollution modeling needs. Emission rates are calculated under various conditions which affect in-use emission levels (e.g. ambient temperatures, average traffic speeds). MOBILE models have been used to evaluate highway mobile source control strategies by the EPA; states, local, and regional planning agencies have developed emission inventories and control strategies for State Implementation Plans; MPOs and state transportation departments use MOBILE models for transportation planning and conformity analysis; academic and industry investigators conduct research with the model; and environmental impact statements are developed utilizing the MOBILE model.

The US EPA has recommended that base, current and future inventories use MOBILE6 for consistency purposes in attainment demonstrations.⁸ MOBILE6 data has successfully been incorporated with the Link-Based Travel Demand Model data in urban areas and were put into the September 1999 photochemical model. This task was completed in April of 2003. Figure 3-1 illustrates the counties which were updated with MOBILE6 data.

➤ *On-road*

One of the early milestones of the EAC requires incorporating MOBILE6 output with link-based Travel Demand Model data into the photochemical model for urban areas. AACOG staff entered MOBILE6 on-road files for several urban areas of Texas as follows:

➤ *Bexar County*

The Bexar County on-road file was updated in two primary ways. A daily adjustment was applied to the data that converted weekday emissions to specific days of the September episode. In addition, a factor was applied

⁸ Frequently Asked Questions on Implementing the DRAFT 8-Hour Ozone Modeling Guidance to Support Attainment Demonstrations for Early Action Compact (EAC), US Environmental Protection Agency. <http://www.epa.gov/scram001/guidance/guide/eac-ozone.pdf>

to highway VMT to account for non-reoccurring events, similar to the methodology used in Dallas and documented in the State Implementation Plan.

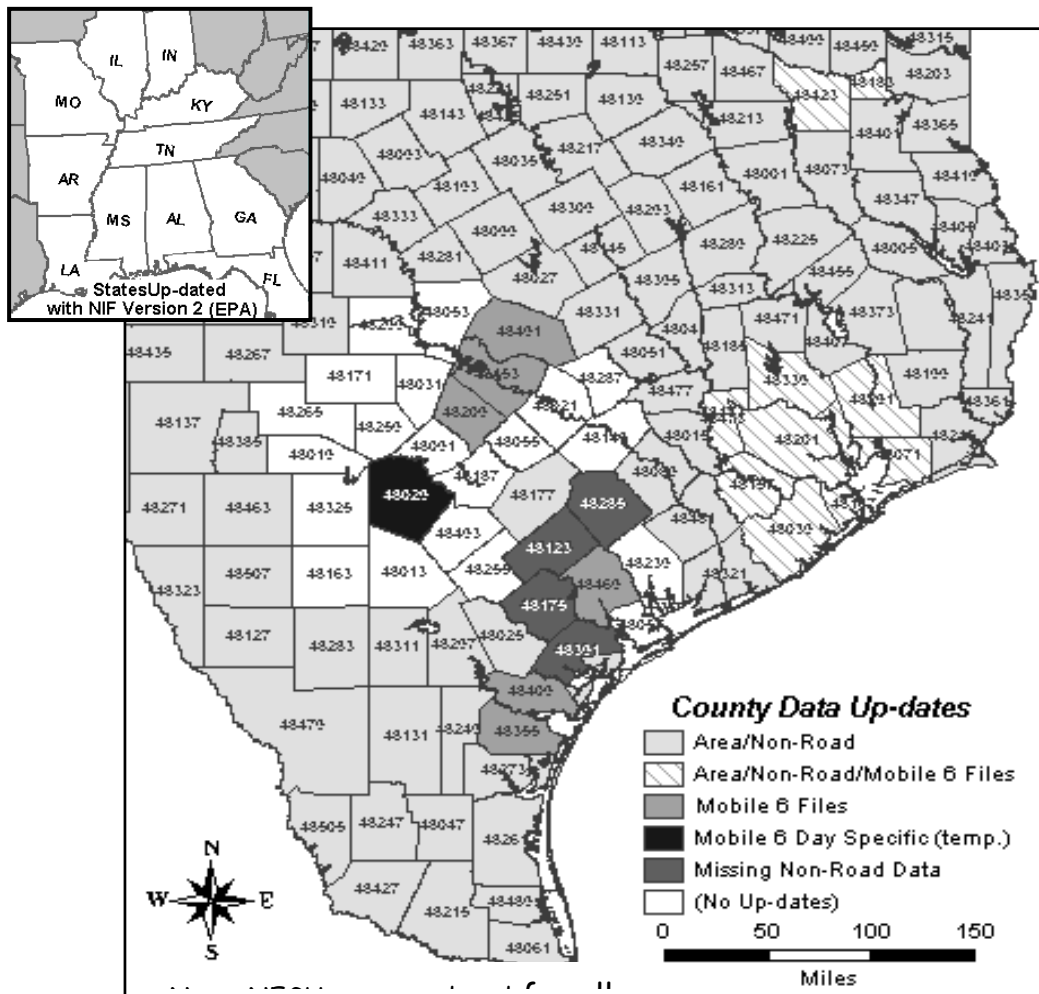
➤ *Houston*

AACOG staff obtained MOBILE6 on-road files for the Houston area from TCEQ's web site. However, the files had to undergo further modifications, as the original MOBILE6 on-road emission rates were developed for an August 2000 episode. Since the dates for the Houston episode did not correspond to the San Antonio episode, the on-road files were adjusted for the correct time period and correct ambient temperatures using an adjustment factor developed with MOBILE6.

➤ *Austin and Tyler-Longview*

The MOBILE5 on-road files for Austin and Tyler-Longview areas that were used in the development of the original September 1999 base case were replaced with the MOBILE6 files provided by TCEQ.

Figure 3-1 Map depicting counties which were updated with MOBILE6.



3.3.3 Conceptual Model Milestone

A conceptual model profiles or typifies the meteorological conditions during which high ozone levels are created for a region through the study of the meteorology accompanying high levels of ozone. The days which will comprise the modeling episode are specifically chosen to reflect the typical area's meteorology during the formation of high ozone levels. Thus, a successful conceptual model lists the best possible ozone episodes that could be incorporated into a photochemical model for control strategy evaluation.

A good candidate for the photochemical model needs to represent a typical high ozone period for the San Antonio region. Episode candidates are analyzed for comparison of meteorological data, designated design value, and elements of ozone maximum averages in the San Antonio area. Meteorological data includes temperatures, wind speed, air parcel movement, solar radiation, and precipitation. Elements of maximum 8-hour ozone averages consist of the number of exceedance days, seasonal peak correlation, the day-of-week the exceedances occur on, and the correlation of 1-hour and 8-hour averages. A PM 2.5 correlation is also discussed as well as the cost factor. The analysis results present a choice of six candidate episodes, and any distinguishing characteristics, for photochemical modeling. The conceptual model also prescribed criteria for conceptual model selection. They include:

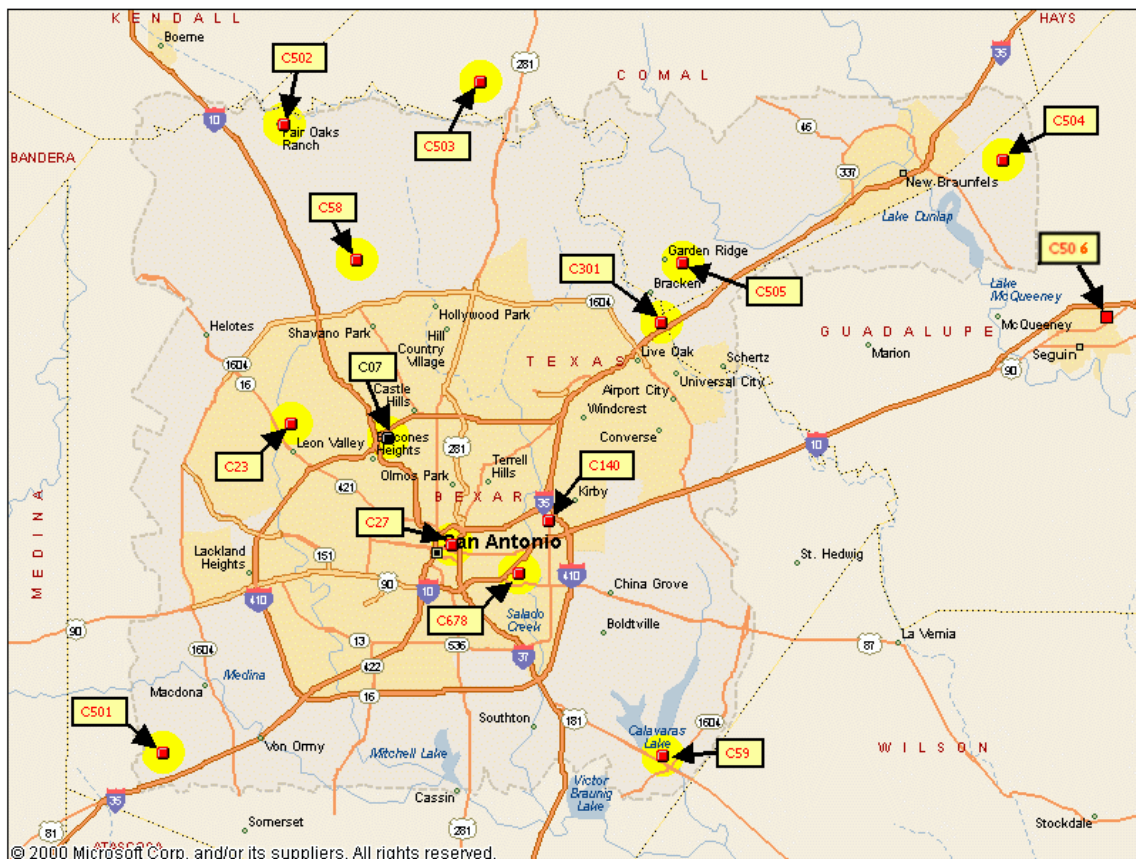
- Episode should occur after 1998 (more recent years are more desirable)
- Episode should occur during the three-year period used to calculate the design value.
- Abundance of meteorological data available for modeling
- Design value: ozone levels should be within 10 ppb of the 86.3 ppb design value
- Preferably, the episode should consist of 3 or more exceedance days
- Episode should occur during the peak periods of the ozone season for the San Antonio region
- Episode ozone exceedances should occur on days-of-week which typically have high ozone
- Preference should be given to episodes meeting the other criteria in as many areas as possible

3.3.3.1 Air Monitoring and Analysis

The San Antonio MSA currently has ten monitoring stations that record information on weather conditions and ozone levels as shown in figure 3-2.

Data collected at these sites is quality assured and is accessible via the internet courtesy of TCEQ. Weather compiled at the Continuous Air Monitoring Stations (CAMs) in San Antonio includes temperature, wind direction, wind speed, precipitation, and solar radiation.

Figure 3-2 Monitoring Station Locations in the San Antonio Airshed



Meteorological Analyses

Several types of analyses were performed on meteorological data sets, information on transport, wind direction, and back trajectories in order to select an appropriate photochemical model. The analyses involved observing the effect of some meteorological variables (temperature, precipitation, wind speed and direction), particulate matter (PM 2.5), solar radiation, and atmospheric stability. Figures 3-7 to 3-10 illustrate the analyses of these variables.

Figure 3-3 Daily 8-Hour Ozone Maximums vs Peak Temperature, 1998-2002 Ozone Seasons

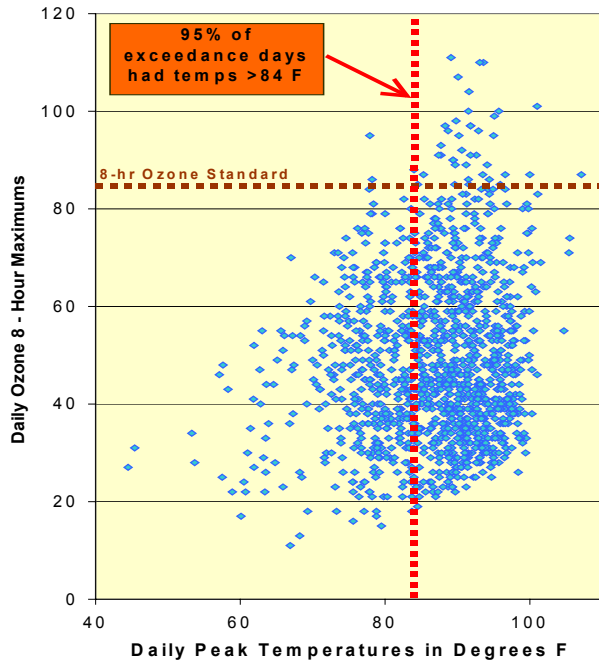


Figure 3-4 Daily 8-hour Ozone Maximums v. Average Wind Speeds, 1997-2002 Ozone

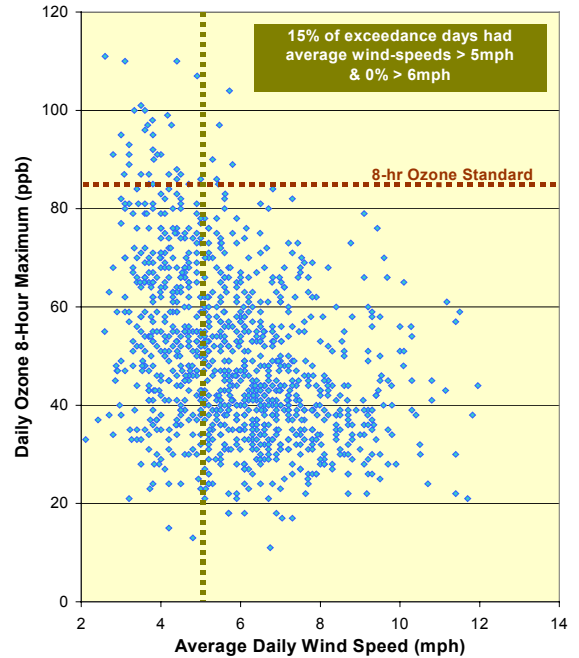


Figure 3-5 Daily 8-hour Ozone Maximums v. PM 2.5, 2000-2002 Ozone Seasons

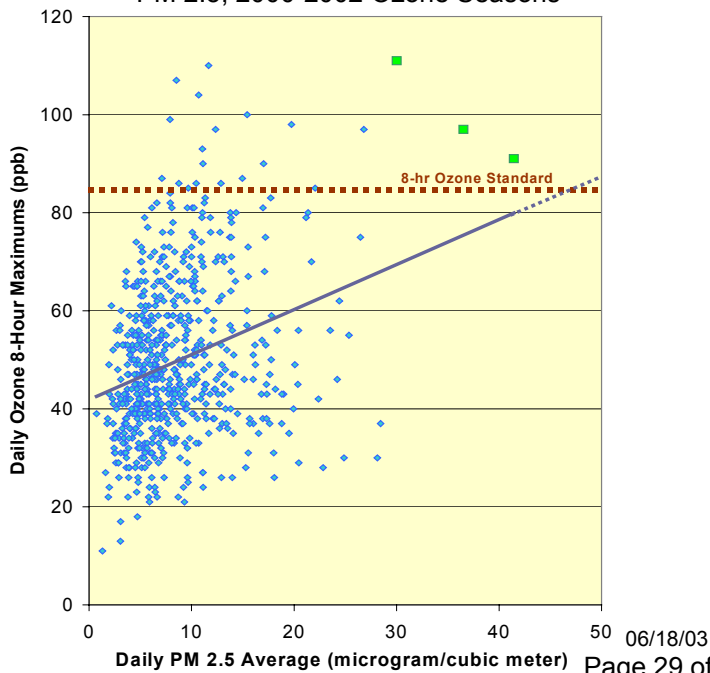


Figure 3-6 Comparison of Daily Ozone 8-hr Maximums & Daily Precipitation Totals, 1999-2002 Ozone Season

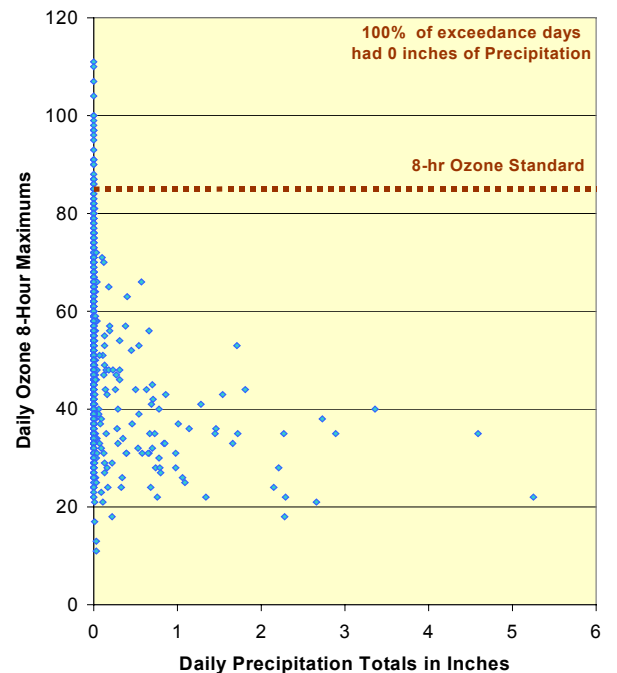
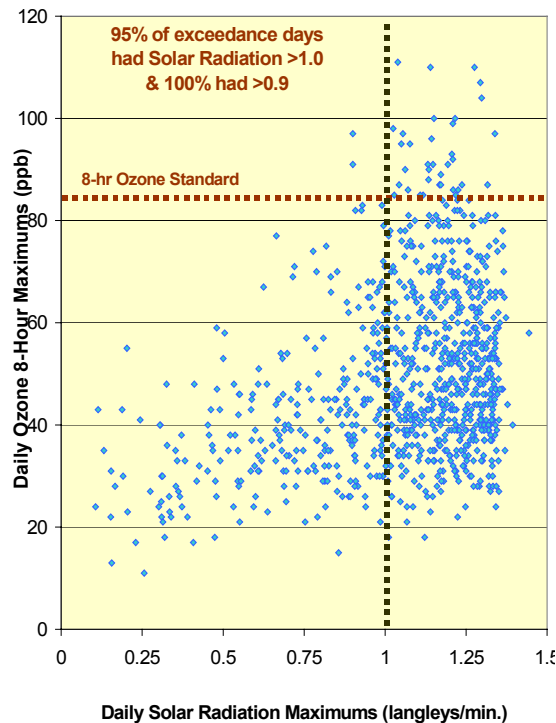


Figure 3-7 Comparison of Daily Ozone 8-hr Maximums & Solar Radiation Daily Maximums. 1999-2002 Ozone Season



Three boxes can be observed in the upper right hand corner of Figure 3-5. These boxes represent the PM 2.5 measurements for the September 12-14, 2002 Haze Event, which was caused by transported sulfates from the Midwest (Ohio & Mississippi Valleys).

Once analysis of the meteorological data was complete, it was concluded that several observed conditions are found to be typical for days of high ozone levels in the San Antonio region. These conditions are important when selecting a suitable candidate for a new photochemical modeling episode. They include:

- ✓ *Temperature* - generally high (> 84° F)
- ✓ *Wind Speed* - still conditions to light winds (< 6 mph)
- ✓ *PM 2.5* - inconclusive
- ✓ *Precipitation* - none
- ✓ *Solar Radiation*- clear skies such as those of high pressure

3.3.3.2 Regional Data

Regional patterns, such as those of air-born influences, meteorological patterns, and/or regional pollutant generators are analyzed by the use of the

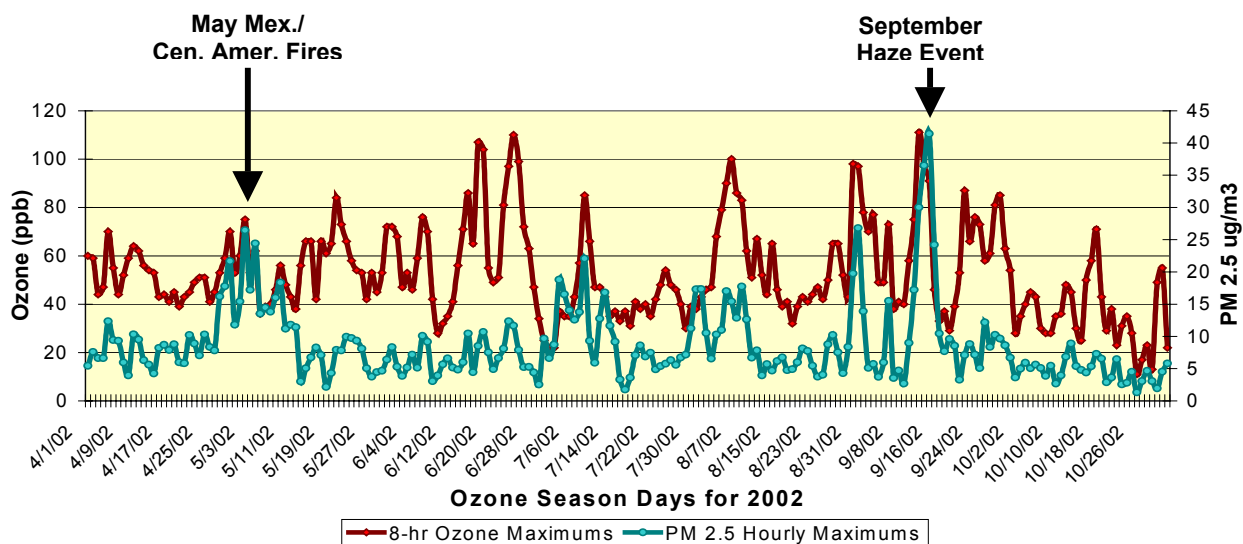
Naval Research Laboratory's NAAPS (Navy Aerosol Analysis and Prediction System) which archives PM 2.5 models of displayed smoke, dust, and sulfate patterns across North America. The following paragraphs describe different types of data gathered which is then analyzed on a regional scale.

Regional Haze/Smoke Events

Regional haze/smoke events may affect ozone levels in San Antonio from time to time. In late spring, annual agricultural burnings from Central America and Mexico may influence ozone readings in San Antonio. There may also be haze events of transported pollution from other parts of the country. In September 2002, San Antonio experienced an exceptional haze event which was caused by pollution transported from the Ohio and Mississippi Valleys. During this events, San Antonio experienced ozone exceedances.

Figure 3-8 illustrates a comparison between PM 2.5 and Ozone readings for the 2002 Ozone Season. The May Mexico/Central America fire smoke and Ohio Valley and Mississippi Valley haze periods in September are marked for reference.

Figure 3-8 Hourly Maximum PM 2.5 and 8-hour Average Ozone for San Antonio, 2002 Ozone Season.

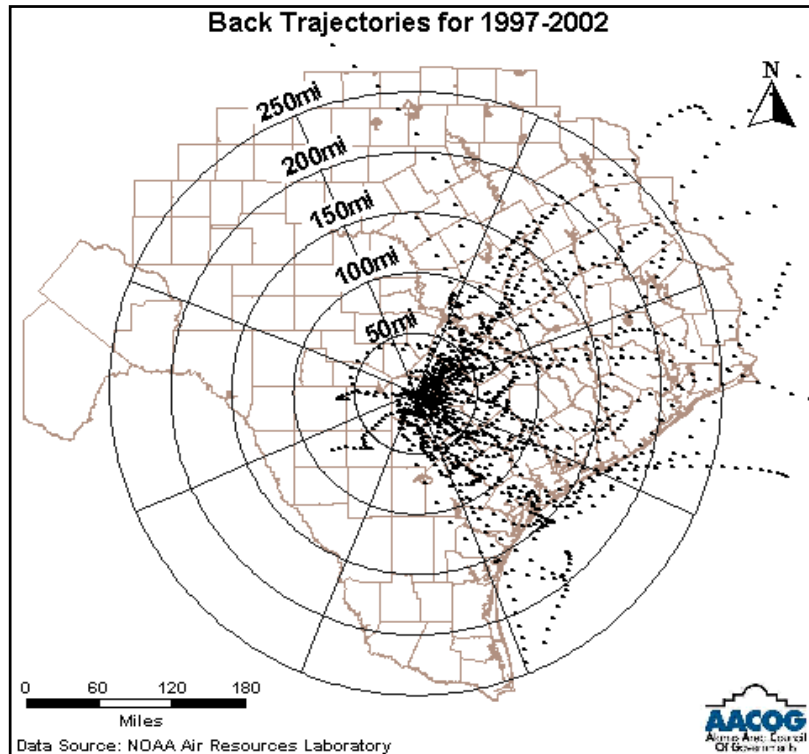


Air Parcel Paths

Studying air parcel paths can assist in the comprehension of “air pollution behavior.” Back trajectories allow the movement of air parcels to be analyzed and recognize the path followed by the parcel before reaching its destination. The HYSPLIT model is used to develop back trajectories, as recommended

by TCEQ.⁹ By utilizing the HYSPLIT model for the forty-two exceedance days in the San Antonio area, spatial patterns were observed for the exceedance days. Figure 3-9 illustrates air parcel paths.

Figure 3-9 1997-2002 Pattern of Air Parcel Paths Arriving in San Antonio

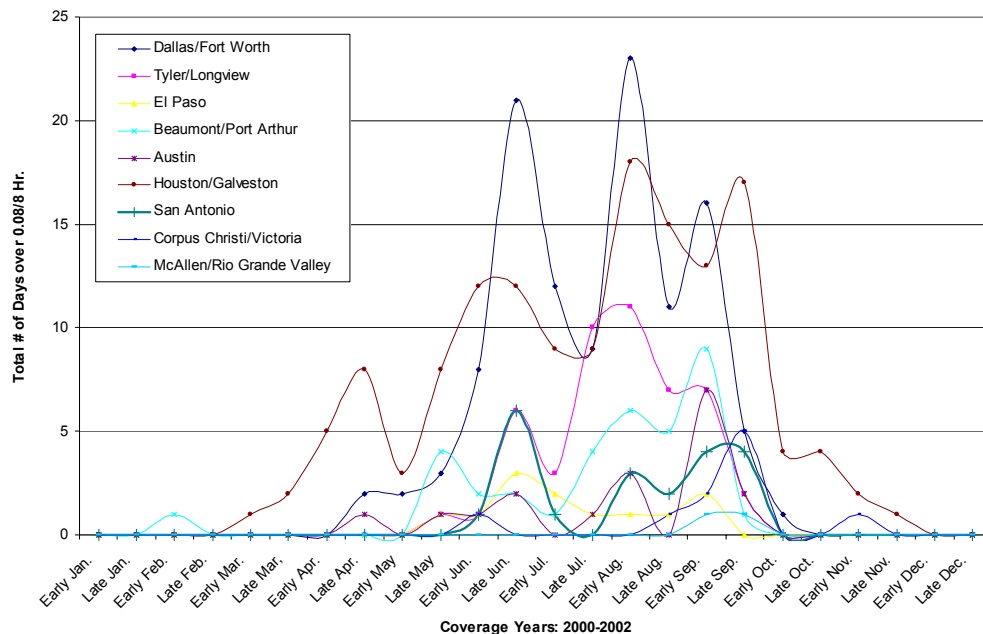


Ozone Seasonal Peaks in the Region

Ozone seasonal peaks occur during the months of April-October, traditionally known as ozone season. These peaks are periods of time where ozone exceedances commonly occur. Figure 3-10 shows the total number of exceedance days by two week periods from 2000-2002. The figure shows the first seasonal peak occurring in June. The next peak occurs from August to late September, represented by a double hump.

⁹ TCEQ, Air Monitoring, "Where did the Air Come from and Where is It Going?" Available on-line: <http://www.tnrc.state.tx.us/updated/air/monops/data/trajectories/maintraj.html>

Figure 3-10 High Ozone Readings by Two-week Period by Region



3.3.3.3 Episode Selection

San Antonio MSA's air quality history was reviewed and analyzed as described in the previous sections. Several scenarios that met the selection criteria for a new photochemical model were identified. These model candidates are listed in the table 3- along with their identifying characteristics.

Table 3-4 Conceptual Model Final Episode Selection Summaries.

Episode Candidate	<ul style="list-style-type: none"> • Characteristics of special interest (bold font) • Undesirable Characteristics (normal font) • <i>Very undesirable Characteristics (bold italic font)</i>
August 5 – 7, 2002	<ul style="list-style-type: none"> • 1 of 3 exceedance days > 10 ppb above the design value of 86.3 ppb
September 16 & 18, 2000	<ul style="list-style-type: none"> • Only 2 exceedance days in the episode • <i>Is the oldest episode under consideration</i>
June 23 – 25, 2002	<ul style="list-style-type: none"> • Reduced cost if done in coordination with the Austin region • <i>3 of 3 exceedance days > 10 ppb above the design value of 86.3 ppb</i>
June 15, 17-18, 2002	<ul style="list-style-type: none"> • <i>2 of 3 exceedance days > 10 ppb above the design value of 86.3 ppb</i> • Poor correlation with best-fit line (Observed – Predicted) for June 18th & only a fair correlation on the 17th
September 12-14, 2002	<ul style="list-style-type: none"> • <i>2 of 3 exceedance days > 10 ppb above the design value of 86.3 ppb</i> • Low day-of-week correlation (only 1 of 3) • <i>Continental Haze Event</i>
August 30 - 31, 2002	<ul style="list-style-type: none"> • Only 2 exceedance days in the episode • <i>2 of 2 exceedance days > 10 ppb above the Design Value of 86.3 ppb</i> • Low day of week correlation (only 1 of 2) • Poor correlation with best-fit line (Observed – Predicted) for Aug. 31st & only a fair correlation on the 30th

3.3.4 NONROAD Model Milestone

The nonroad emissions model predicts emissions for nonroad equipment categories such as recreational vehicles, logging agricultural equipment, construction equipment, industrial equipment, residential and commercial lawn equipment, and marine vessels. The model includes more than 80 basic and 260 specific types of nonroad equipment, and further stratifies equipment types by horsepower rating. Fuel types include gasoline, diesel, compressed natural gas (CNG), and liquefied petroleum gas (LPG).

The NONROAD model can estimate current year emissions for the specified geographic area as well as project future year emissions and backcast past year emissions. In estimating future year projections and in backcasting, the model includes growth and scrappage rates for equipment in addition to a variety of control program options. The model can calculate emissions for a variety of time

periods — an entire year, one of four seasons, or any particular month. Emissions for the period selected are estimated either for the total period or for a typical day (weekday or weekend) in that period.¹⁰

3.3.5 Emissions Trend Line Analysis Milestone

The *Emissions Trend Line Analysis* is currently being developed for the September 30, 2003 due date. The Emissions Trend Line Analysis is one of many steps set by the Early Action Compact (EAC) to demonstrate maintenance of the 8-hr Ozone Standard through analysis of past to current emissions trends with projected growth. The Analysis addresses emissions growth through the year 2012 to ensure the area of study, the San Antonio Metropolitan Statistical Area (MSA), will maintain attainment according to the eight-hour average ozone (8-hour ozone) National Ambient Air Quality Standard (NAAQS) during that period. The report is divided into the five categories:

- *Analysis of Emissions Growth* – analyzes the 1996 & 1999 NET Emission Inventories (EI) and the 2007 & 2012 projected EIs;
- *Reduction Measures* – Identification and quantification of federal, state, and/or local measures indicating sufficient reductions to offset growth estimates.
- *Continuing Planning Process* – addresses modeling updates and verification of modeling assumptions to be employed, such as growth assumptions.
 - includes all relevant actual new point sources
 - evaluates and account for potential new source growth
 - updates the modeling of future transportation patterns and their impact on air quality
- *Suggestions and Recommendations* – in the event review of the growth demonstrates that adopted control measures prove to be inadequate to address growth in emissions, additional measures will be added to the plan.
- *Annual Review of Growth – Maintenance for Growth*, an annual report to ensure control measures and growth assumptions are adequate for the maintenance of the 8-hr Ozone standard. The *Maintenance for Growth* will contain any new Emissions Inventories completed, new control measures passed, modeling updates, and/or new methodologies employed in the analysis of the emissions analyzed within the *Trend Line Analysis*.

3.3.5.1 Methodologies for Projected Emission Inventories

The base case used to project emissions data to 2007 and 2012 data was the 1999 Emissions Inventory, which is the most recently completed

¹⁰ <http://www.epa.gov/otaq/models/nonrdmdl/usergd/chapt1.pdf>

emission inventory for San Antonio. The methodologies employed in projecting emissions from the 1999 base case varied according to category. The categories included non-road, airport/military, area, biogenic, point, and on-road. Several different methods were employed in the development of these two projections:

➤ *Non Road Sources*

Non-road emissions were developed using EPA's NONROAD Model. Calculating non-road projected growth estimations required several steps. The first step involved running EPA's NONROAD model to obtain emission estimates from off-road equipment on typical weekdays and typical weekend days during the summer ozone season. Separate runs were conducted for each of the twelve AACOG counties for the years 1999, 2007, and 2012. The objective of this step was to obtain data that could be used to develop ratios of the change in equipment emission rates between 1999 & 2007 and between 1999 & 2012.

Since the purpose of the runs was to obtain ratios, minimal changes were made to the model's default data files. Only the human population file for the state of Texas was modified. A separate population file was created for each of the three years modeled. Each file – 1999, 2007, and 2012 – contained updated population estimates for the twelve AACOG counties and for Texas (FIPS code 48000). The population data used to refine the files were interpolated from statistics obtained from the TWDB.

The resulting NONROAD reports yielded emissions in tons/day for each off-road category (by SCC) on a typical weekday and a typical weekend day by county for the years 1999, 2007, and 2012.

➤ *Area Sources*

Emissions for area sources were projected for 2007 and 2012 by utilizing the Economic Growth Analysis System (E-GAS) and by using population-based calculations. Figures from the 1990 Census and 2000, 2010 & 2020 population projections, provided by the Texas Water Development Board (TWDB) were used to extrapolate population figures for the years 2007 and 2012. These figures were used for architectural surface coatings and consumer/commercial solvents calculations. The E-GAS model, endorsed by the EPA when

emission source growth estimates cannot be obtained by survey or any other local source, was used to project all other area sources.

The Economic Growth Analysis System (EGAS) was developed by the EPA to provide "creditable growth factors"¹¹ for projecting future emissions. In the development of the 2007 and the 2012 Emissions Inventory (EI) for the AAGOG region, EGAS Version 4.0 was used to obtain growth factors for some area sources by Source Classification Codes (SCCs). These growth factors are ratios of the projection year's (2007) activity level to the 1996 activity level; 1996 being the base case¹².

Rate of Progress controls were used in developing the 2007 and 2012 projections. The controls account for the reduced pollutant emissions by improved future techniques and/or regulations. The ROP Control Factors used in projecting 2007 and 2012 emissions are listed below.

Rate of Progress Control Factors

- **0.0 control factor** (SCC 2660000000: LUST)
- **0.8 control factor** (SCC 2401001000 Architectural Coatings, SCC 2401008000: Traffic Markings, SCC 2401100000 High Performance Maintenance, SCC 2401200000 Other Specific Purpose Coatings)

Regulation V Rules were accounted for in the 2007 and 2012 emission projections for the category of Factory Finished Wood. The category has a 99% Rule Effectiveness (RE)¹³, thus emissions are reduced by 99%. Thus, Factory Finished Wood has a control factor of 0.01.

➤ *Biogenic Sources*

EPA guidelines stipulate that future-projected emissions coming from biogenic sources remain the same as the selected base case. The TCEQ provides biogenic emissions for the 1999 base case, which is used for the 2007 and 2012 projection.

¹¹ Pechan, 2001. *EGAS 4.0 Reference Manual*, pg. 1-1. Durham, NC. Available online October 4, 2001, http://www.epa.gov/ttn/chief/emch/projection/egas40/ref_man_4.pdf

¹² Ibid

¹³ Regulations Affecting Area Sources in 1999 – Revised by Eddie Mark 8/28/01

➤ *Point Sources*

TCEQ provides emission data from point sources in the state of Texas. TCEQ also provided the 2007 electric generating unit (EGU) and non-electric generating unit (NEGU) files. The EGU and NEGU files were utilized in the Houston SIP, thus they were updated with local data when available. Such updates included projected 2007 and 2012 emissions from City Public Service power plants¹⁴. The incorporation of this data replaced TCEQ-provided data in the 2007 photochemical model and was also used for the 2012 projection.

3.4 Modeling Milestones

Appropriate modeling episodes will be developed in accordance to SIP guidance. The models will perform within the EPA's accepted margin of accuracy, including base case and future case on or before October 30, 2003 as well as being documented and reviewed by TCEQ and EPA. Quantifiable emission reduction measures will be accounted for in the 2007 projection in order to produce one or several control cases. The effectiveness of the control strategies will then be determined against the control case model.

3.4.1 September 1999 Photochemical Model

In the Spring of 2002, ENVIRON International Corporation completed the development of a meteorology and photochemical model simulation for South-central Texas that included four near non-attainment areas (NNAs): Austin, Corpus Christi, San Antonio, and Victoria. The simulation spanned a multi-day period of September 1999 in which air-monitoring stations at each of the four NNAs consistently recorded high ambient ozone concentrations.

In May of 2002, ENVIRON provided AACOG with a copy of the model simulation, preprocessing data and other inputs used to develop the September 13-20, 1999 episode. During the ensuing months, AACOG staff refined emission rates for several source categories and areas; collected updated emissions inputs, when available, from the Texas Commission on Environmental Quality and the EPA; and prepared the refined data for use in the development of an enhanced 1999 simulation base case. One of the most significant refinements to the emission inputs was conversion of on-road data from MOBILE5 to MOBILE6 for several urban areas of Texas.

¹⁴ 2007 CPS power plant emissions supplied by Cyndi Levesque of CPS, September 9, 2000

3.4.1.1 Updates to the 1999 Simulation

The Early Action Compact requires that control strategy analysis be based on SIP quality modeling episodes that perform within EPA's acceptance criteria. In an effort to obtain the level of accuracy required, numerous refinements have been made to the model's input data for the San Antonio region, other areas of Texas, and eleven states east of Texas. Modelers concentrated on improving emission estimates for areas south and east of San Antonio, as the wind direction during the September 1999 episode was predominately from the east and southeast. The remainder of this section summarizes the major enhancements made to the 1999 base case.

➤ *Point*

The photochemical model's electric generating unit (EGU) point source file was updated for the local San Antonio area with information from City Public Service (CPS), the utility provider for the City of San Antonio and portions of surrounding counties. CPS provided emission rates in tons/day by power plant stack for the September 13 – 20, 1999 episode. These emissions were spatially allocated based on the geographic locations of the plant stacks.

TCEQ's point source database contains emission rates for non-electric generating units (NEGUs) and electric generating units (EGUs) throughout Texas.¹⁵ The current NEGU and EGU database includes refinements that were not available when the original 1999 photochemical model base case was developed. The original NEGU and EGU emission files were replaced with the refined data for all counties in Texas.

➤ *Area / Non-road*

Updated area emission files were downloaded for all counties in Texas from TCEQ's web site. In addition, updated area emissions were obtained from EPA's SCRAM web site¹⁶ for eleven states: Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. These data files were part of the 1999 NET emissions inventory database maintained by the EPA.

Non-road emission files were updated for the four-county Victoria area, as the file used for development of the original base case was incomplete.

¹⁵ <ftp://ftp.tceq.state.tx.us>

¹⁶ <ftp://ftp.epa.gov/modelingcenter>

The off-road equipment emissions for the four counties were estimated using EPA's NONROAD model. For the remainder of the state, the off-road equipment files contained on TCEQ's web site were used to update the 1999 base case. Non-road data from the EPA SCRAM site was used to update the off-road emissions for the same eleven states listed previously.

➤ *On-road*

One of the early milestones of the EAC requires incorporating MOBILE6 output with link-based Travel Demand Model data into the model for urban areas. AACOG staff entered MOBILE6 on-road files for several urban areas of Texas as follows:

➤ *Bexar County*

The Bexar County on-road file was updated in two primary ways. A daily adjustment was applied to the data that converted weekday emissions to specific days of the September episode based on ambient temperature. In addition, a factor was applied to highway VMT to account for non-reoccurring events, following the methodology used in Dallas and documented in the State Implementation Plan.

➤ *Houston*

AACOG staff obtained MOBILE6 on-road files for the Houston area from TCEQ's web site. However, the files had to undergo further modifications, as the on-road emission rates were developed for an August 2000 episode. Since the dates for the Houston episode did not correspond to the San Antonio episode, the on-road files were adjusted for the correct time period and correct ambient temperatures using MOBILE6.

➤ *Austin and Tyler-Longview*

The MOBILE5 on-road files for Hays, Travis, Williamson, San Patricio, Nueces, Victoria, Gregg, and Smith counties that were used in the development of the original September 1999 base case were replaced with the MOBILE6 files provided on TCEQ's web site.

3.5 Maintenance for Growth Milestones

The maintenance for growth will demonstrate maintenance of the 8-hour ozone standard through the year 2012 while accounting for projected population growth. Development of the maintenance for growth requires the utilization of emissions inventories from 1996, 1999, 2007, and 2012. Within the report, an analysis of emissions growth, reduction

measures, continuing the planning process, suggestions and recommendations, and an annual review of growth will be provided. A report detailing the methodologies utilized in developing the Maintenance for Growth will be delivered March 31, 2004.

Chapter 4 – Conclusion

The San Antonio MSA has successfully maintained a steady progress against the EAC Milestones, ensuring proper development of the Clean Air Plan. The table below summarizes the accomplished milestones as stipulated in the EAC protocol and lists the tasks that will need to be performed to remain in compliance with EAC guidance.

Milestone	Status	Reference in the Early Action Compact
Emissions Inventory Milestones		
Development of a 1999 or later episode emissions inventory according to requirements in Chapter IV, b)	Completed	Chapter IV, b)
Incorporate MOBILE6 data with Link-Based Travel Demand Model data in urban areas	Completed	Chapter IV, b)
Further emission inventory episode development based on local Conceptual Model update. Other episode inventories, if required, made in concert with EPA, TCEQ, and local entities.	April 30, 2003- Completed Next updated due April 30, 2005	Chapter IV, b)
NONROAD model data adjusted for local equipment populations and usage rates; Area source data is based when possible on local survey data.	Completed	Chapter IV, b), c)
Emissions Trend Analysis utilizing National Emissions Trends (NET) Emissions Inventories (EI's)	Currently in development-due September 30, 2003 Next updated due September 30, 2005,	Chapter IV, b)
Modeling Milestones		
Develop SIP quality modeling episodes that perform within the EPA's accepted margin of accuracy, including a base case and future case on or before December 31, 2007. Documented & reviewed by TCEQ & EPA. Quantifiable emission reduction measures in the future case to produce one or more control cases. Control strategies determined against control case model.	Deliver future base case model by September 30, 2003 from AACOG, based on the Sept. 1999 photochemical model currently under refinement by AACOG, or other photochemical model as agreed upon by the partners under this compact and which meets the requirements of this compact.	Chapter IV, c)
Develop other episodes as necessary to fully represent the variety of situations that typically contribute to local ozone production	Requirement for further episode development based on Conceptual Model updates. 1 st Update due April 30, 2003 Completed 2 nd Update due April 30, 2005	Chapter IV, c)

Milestone	Completion Date	Reference in the Early Action Compact
Control Strategy Development Milestones		
Identify additional local controls, as necessary, to demonstrate 2007 attainment of the 8-hour standard. Controls implemented by Dec. 31, 2005, with full local stakeholder participation.	<p>Draft list of possible control strategies due June 15, 2003-list is currently being developed</p> <p>Future case analysis, control cases and control case showing achievement of the 8-hour ozone standard on or before Dec. 31, 2007 – report due March 31, 2004</p>	Chapter IV, d)
All control measures will be incorporated by the state into the State Implementation Plan.	Required deliverables from AACOG to TCEQ & EPA by March 31, 2004	Chapter IV, d)
Maintenance for Growth Milestones		
Component to address emissions growth at least 5 years beyond December 31, 2007, ensuring that the area will remain in attainment of the 8-hour standard during that period.	The satisfactory choice of methodologies to demonstrate a maintenance analysis through 2012 will be agreed upon by the AIR Committee, TCEQ and the EPA. In any case, required deliverables from AACOG to TCEQ, EPA by March 31, 2004.	Chapter IV, e)
A continuing planning process will include modeling updates and modeling assumption verification (particularly growth assumptions)	Ongoing process between the TCEQ, EPA and AACOG	Chapter IV, e)
If the review of growth demonstrates that adopted control measures are inadequate to address growth in emissions, additional measures will be added to the plan	Required deliverables from AACOG to TCEQ, EPA as needed for additional SIP revision after December 31, 2004	Chapter IV, e)
Public Involvement Milestones		
Conducted in all stages of the planning and implementation process. Public education programs used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of control strategies. Interested stakeholders involved in the planning process as early as possible. Planning meetings open to the public, with posted meeting times and locations. Plan drafts made publicly available, and the drafting process will have sufficient opportunities for comment from all interested stakeholders. Semi-annual reports detailing, at a minimum, progress toward milestones, publicly presented and publicly available.	Matrix in Appendix B – lists local educational efforts related to the development of the Clean Air Plan as well as educate citizens about regional air quality issues.	Chapter IV, f)

Appendix A

Draft Clean Air Strategies

Clean Air Strategies

**A Milestone in the
Early Action Compact /
Clean Air Plan for the San Antonio Metropolitan Statistical Area**

**Presented by the
Air Improvement Resources Committee
of the
Alamo Area Council of Governments**

**This document was approved by the
Air Improvement Resources Technical Committee on May 23, 2003
And approved by the
Air Improvement Resources Executive and Advisory Committees
on May 28, 2003**

Final Document Due June 16, 2003

Clean Air Strategy Report

As required by Early Action Compact (EAC) protocol, areas which participate in early, voluntary 8-hour air quality plans must assess and report their progress in achieving EAC milestones in a regular, public process every six months. One of the key milestones required by the EAC for inclusion in this first Biennial Report is:

- Identification and description, by no later than June 16, 2003, of local control strategies **under then-current consideration** for inclusion into the area's local clean air plan, including those analyzed in modeling.

The Air Improvement Resources Committee of the Alamo Area Council of Governments (AACOG) is the local entity charged with oversight and coordination of the development of the Clean Air Plan for the San Antonio Metropolitan Statistical Area. The Clean Air Plan is the San Antonio region's local version of the Early Action Compact. The elected officials in the AIR Executive Committee, the Chairman of the Texas Commission on Environmental Quality, and the Administrator for Region 6 of the US Environmental Protection Agency signed the Clean Air Plan for the San Antonio Metropolitan Statistical Area on December 9, 2002.

Since the signing of the Clean Air Plan, the AIR Committee has worked in close conjunction with local stakeholders and the agencies named above to develop these lists of clean air strategies:

1. **Creditable and Enforceable Clean Air Strategies:** this list contains creditable, enforceable clean air strategy candidates which could be modeled as part of the attainment demonstration required under the Early Action Compact protocol. This list is categorized by source type; it is not ordered by preference of strategy nor is it prioritized in any way.
2. **Voluntary Clean Air Strategies:** this list contains clean air strategies which, although useful in improving air quality in the region, may not be creditable or enforceable. It is important to note that these strategies are currently being implemented to some extent in the region. Further implementation of these strategies may prove to be important.
3. **Potential Voluntary Clean Air Strategies:** like the previous list, these useful air quality strategies may not be creditable or enforceable. The strategies listed here may not be in practice in this region. However, implementation of these strategies may prove to be important.

It must be noted that these are draft lists, and do not represent a final list of clean air strategies from which the elected officials will select strategies as required in the Clean Air Plan. Other strategies may be added to this list and strategies may be moved from one list to another, as warranted. As the EAC reporting requirement notes, this list set provides the identification and description of local control strategies under **current consideration** for inclusion into the Clean Air Plan for the San Antonio Metropolitan Statistical Area.

Creditable and Enforceable Clean Air Strategies

♦ **Currently implemented in the San Antonio region.**

	Fleet Strategies	Emission Reduction	Cost Estimate
	1) Shift delivery operations to off peak hours	None, but "X" tons of NOx are shifted to another part of the day.	Undetermined
	2) Accelerate replacement of current fleets with LEV's etc.		
♦	3) Accelerate use of low emissions fuels such as low emission diesel, alternative fuels, ULSD (a) Private fleets (b) Public fleets	AF – 0.008 tpd ⁱ ULSD – 2975lb/d NOx ⁱⁱ	\$7.4K per ton NOx ⁱ ULSD - +7-10¢/gal ⁱⁱⁱ
	4) Fleet idling limitations or restrictions (overnight idling of diesel trucks)	618.1 lbs/day NOx ^{iv}	\$500 per ton NOx ^{iv}
♦	5) Accelerate bus conversion to cleaner fuels, such as LPG		Retrofits: CNG-\$2.5-3K LPG-\$2-3K New: LPG - \$300-1K CNG- \$2K ^v
♦	6) Require alternative fuels for public fleets	Per 5000 Vehicles	Cost per ton (10 year program implementation)
	a) LPG	195.3 lb/d VOC No NOx reduction ^{vi}	Retrofit: \$28-42K (ton/VOC) New: \$4-14K (ton/VOC) ^{vii}
	b) CNG	372.3 lb/d VOC 54.74 lb/d NOx 1,305 lb/d CO ^{vi}	Retrofit: \$18-22K (ton/VOC) New: \$15K (ton/VOC) Retrofit: \$1.7-2M (ton/NOx) New: \$1.3M (ton/NOx) Retrofit: \$6.4-7.7M (ton/CO) New: \$5.2M (ton/CO) ^{vii}
	c) Electric	280.9 lb/d VOC 213.7 lb/d NOx 2145 lb/d CO ^{vi}	Retrofit: \$40-50K (ton/VOC) New: \$19-70K (ton/VOC) Retrofit: \$900K-1M (ton/NOx) New: \$450-1.6M (ton/NOx) Retrofit: \$2-3M (ton/CO) New: \$1-3.7M (ton/CO) ^{vii}
	d) Ethanol	111.8 lb/d VOC 130.5 lb/d NOx 93.19 lb/d CO ^{vi}	Retrofit: \$50-75K (ton/VOC) New: \$25-50K (ton/VOC) Retrofit: \$2-3M (ton/NOx) New: \$1K-2M (ton/NOx) Retrofit: \$100-150M (ton/CO) New: \$50-100M (ton/CO) ^{vii}
	e) Biodiesel	101.1 lb/d VOC -11.0 lb/d NOx 115.8 lb/d CO ^{vii}	Retrofit: Little to none (engines '94 and up) ^{vi}
	f) LNG (viable for only heavy duty vehicles)		
♦	7) Promote emission testing of fleet vehicles (City Public Service)	Token Emission Reduction	

Creditable and Enforceable Clean Air Strategies

	Fleet Strategies	Emission Reduction	Cost Estimate
	8) Vehicle Inspection/Maintenance Program		
	(a) Possibly tie tests in with license plate renewal to promote properly running vehicles	Included with I/M program	
	(b) Deny registration to vehicles with repeated emission failures	Included with I/M program	
	(c) On Board Diagnostics (OBDII)	3.6 tpd VOC 3.2 tpd NOx ^{viii}	Unknown at this time. Approximate cost of equipment is \$8,000 ^{ix}
	(d) Acceleration Simulation Mode (ASM) test with OBD	6.1 tpd VOC 4.7 tpd NOx ^{viii}	\$2.7-\$3.1K ton VOC \$2.9-\$3.3K ton NOx ^{ix}
	(e) Two Speed Idle with OBD	5.2 tpd VOC 3.2 tpd NOx ^{viii}	\$2.7-\$3.1K ton VOC \$3.2-\$3.6K ton NOx ^{ix}
	(f) Maintenance / tune up programs for fleets and/or personal vehicles, and/or joint recycling programs which include regionally-coordinated emissions testing with a jointly-purchased dynamometer.	Included with I/M program	
	(g) Vehicle recycling program with emissions testing	Included with I/M program	
	(h) Roadside pullovers	Included with I/M program	
	Transportation Control Strategies	Emission Reduction	Cost Estimate
	9) Remote Sensing / Detection	0.4 tpd NOx ⁱ	
	a) Enforce smoking vehicle reports and require repairs	Included with I/M program	
	b) Roadside emission detection and notification	Included with I/M program	
	c) Surveillance program	Included with I/M program	
♦	10) Enforcement of Smoking Vehicle Law	Difficult to quantify	
	11) Heavy Duty Diesel Vehicle (HDDV) inspections	1.5 tpd NOx ⁱ	\$3,375 per ton of NOx ⁱ
	12) Repair assistance		
♦	13) Traffic Flow – Traffic Signals		
	a) Progressively timed traffic signals		
	b) Adaptive traffic signals and signal timing		
	c) Improved signal coordination (not just improved intersection timing)		
♦	14) Grade separation		

Creditable and Enforceable Clean Air Strategies

	Transportation Control Strategies	Emission Reduction	Cost Estimate
♦	15) Heavy-Duty Diesels Limited Lanes Restrict heavy-duty diesels from driving in certain areas/and or times. This would reduce peoples exposure to toxic diesel fumes and reduce congestion. An early morning restriction would reduce the time that the NOx had combine with VOC, cook and produce Ozone.		
♦	16) Roadway bottleneck improvements (add lanes, construct shoulders, etc)		
♦	17) Improve traffic flow through metered entrances and adjustable speed limits where entering main roads (i.e. Smart Roads) and ramp closures		
♦	18) Access management (manage access into new commercial developments)		
	19) Flexible road pricing (no toll booths, electronic metering, etc.)		
	20) Support cost-per-mile auto insurance program i.e. premium based upon miles driven		
	21) Incentives to residents/citizens who purchase LEVs, such as low interest loans or zero financing (SB5)		
♦	22) Multi-business supported programs to encourage dealers to make LEVs available for replacement of regular vehicles; i.e. discounts, financing, etc.		
	23) Direct funding of alternative fuel conversions (through SB5)		
	24) Voluntary Lower RVP – from 7.8 to 7.2	0.11 tpd NOx 0.01 tpd CO 2.03 tpd VOC ^x	
	25) Require Stage 1 Vapor Recovery - implement Stage 1 for gas stations dispensing between 50,000 to 125,000 gallons per month	3.4 tons/day VOC ^{xi}	\$2-3K ton/VOC ^{xii}
	26) Retrofit selected heavy duty diesel engines – Texas Emissions Reduction Program (TERP)	15.2 tpd NOx ⁱ	\$34-1,900 per engine; \$500-600 per ton NOx ⁱ
♦	27) Change school hours and school year		
	28) Buy and retire “junk” vehicles.		
	a) Require government fleets to retire vehicles.	Included with I/M program	
	b) Dispose vehicles that are seized.	Included with I/M program	
	c) Demolish impounded vehicles that are high emitters.	Included with I/M program	

Creditable and Enforceable Clean Air Strategies

	Transportation Control Strategies	Emission Reduction	Cost Estimate
	d) Do whatever is necessary to allow cities to remove the engines of high emitting vehicles (pre-1980) that are abandoned and to be auctioned.	Included with I/M program	
	e) Voluntary Accelerated Vehicle Retirement Program.	Included with I/M program	
♦	29) Require coordinating scheduling of roadway maintenance to exclude Air Quality Health Alert days.	From 1999 EI	
♦	30) Air Quality Health Alerts to postpone morning gas activity. Have incentives to promote industry support.	From 1999 EI	
	31) Use market oriented strategies to reduce VMT; i.e. cost of gasoline, parking, licenses, etc.	Difficult to quantify Emission Reduction minimal.	
	32) Speed Limit Reductions		
	(a) 55 mph speed limit	-0.24 tpd VOC 2.03 tpd NO _x 12.17 tpd CO ^{xiii}	
	(b) Lower speed limits of 65 and 70 mph by 5 mph		
	(c) Reduced speed limits for heavy trucks		
	33) Co-locate businesses and multi-use services	Difficult to quantify Emission Reduction Minimal.	
	34) Reduce evaporative emissions through shaded parking	Difficult to quantify	
	(a) Smart Growth	Difficult to quantify	
	(b) Limited Annex Areas	Difficult to quantify	
	Area & Land Use Strategies	Emission Reduction	Cost Estimate
	35) Require commercial airports to implement an alternative fuels plan governing tenants.		
	(a) Encourage electric ground support equipment and other alternative fuel vehicles	0.20 tpd NO _x 0.07 tpd VOC ^{xiv}	Saving per ton NO _x reduced; \$8,000-\$13,000 inc/ baggage tug; savings offset cost in 1-2 years ⁱ
	(b) Use electric or cleaner technology APUs – gate electrification		
	(c) Single-engine taxi for aircraft		
	(d) GSE engine/unit retirement		
	36) Promote use of cleaner lawn and garden equipment such as lower- emission four stroke and electric powered equipment (currently done by CPS)		
	a) Require alternative fuels by public entities to use cleaner equipment with a phase in period	Depends on the number of equipment.	
	b) Suspend activity of gas and diesel powered equipment on Air Quality Health Alert days	3.91 tpd NO _x 30.6 tpd VOC ^{xv}	

Creditable and Enforceable Clean Air Strategies

	Area & Land Use Strategies	Emission Reduction	Cost Estimate
	37) Ozone Reducing Controls on Air Conditioning Units – involves applying a paint like coating to the surface of the heat exchanger to convert ozone-laden air to oxygen.		
	38) Architectural and/or Industrial Surface Coatings Controls – Architectural and industrial surface coatings (eg. paints) are applied by industry, contractors and homeowners to coat houses, buildings, highway surfaces and industrial equipment. VOC emissions result from evaporation of solvents in the coatings.		
	39) Autobody Refinishing/Coatings Controls – The steps involved in automobile refinishing include surface painting and equipment cleaning. Emissions occur at all of these stages due to evaporation of the solvents in the primers, paints, and other coatings and in the cleaning solutions. Involves the use of products with low VOCs, improvements in application technique so less coating is used and control the use of clean-up solvents.		
	40) Commercial and Consumer Products Requirements – Reduces the amount of VOCs emitted from the use of consumer products in homes and institutions. Reductions are achieved by reformulation of the products. "Consumer product" means a chemically formulated product used by household and institutional consumers, (e.g. detergents; cleaning compounds; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products; but does not include other paint products, furniture coatings, or architectural coatings.)	13.42 tpd VOC ^{xvi}	

Creditable and Enforceable Clean Air Strategies

	Area & Land Use Strategies	Emission Reduction	Cost Estimate
	41) Degreasing / Surface Cleaning / Solvents Controls - Degreasing operations are a common source of VOC emissions. Degreasing is a process that uses a solvent to remove grease, oil, or dirt from the surface of a part prior to surface coating or welding. In cold cleaning, the part is dipped into or sprayed with a solvent. Sources that commonly have cold cleaning degreasers include auto repair shops, autobody shops, and industries. Some rules include establishing a vapor pressure limit for the solvents, requiring that suppliers provide a low vapor pressure degreasing solvent to users in the region and keep transaction records. Users would be required to use only low vapor pressure solvents and to keep records of their purchases. Other rules include requiring small degreasing operations such as gasoline stations, autobody paint shops, and machine shops to use less polluting degreasing solvents. Other rules require product reformulation.		
	42) RACT Requirements for Area Sources		
	43) Graphic Arts Controls – Require certain printers to use control devices and low pressure VOC materials to reduce VOC emissions.		
	44) Wood Furniture Coating Operations – A complex series of coating steps and application methods are involved in finishing wood products. Coatings are usually applied in the following order: stain, wash coat, filler, sealer, highlight coat and topcoat. Emissions occur primarily from the solvents used during the coating process.		
	45) Cutback Asphalt: Limit the use of cut-back asphalt and encourage the use of low emissions emulsion asphalt where hot mix cannot be used.		
	Non Road Strategies	Emission Reduction	Cost Estimate
	46) Require alternative landscape and natural vegetation instead of mowing		
	47) Alternative fueled equipment (construction, etc.)		
♦	48) Accelerated equipment turnover; Tier 2 and Tier 3 non-road engines	15.2 tpd NO _x ⁱ	\$35-\$1,900 per engine; \$500-600 per ton NO _x ⁱ
	49) Accelerated purchase of “Blue Sky” engines (Tier 3)		

Creditable and Enforceable Clean Air Strategies

	Governmental/Legislative Strategies	Emission Reduction	Cost Estimate
	50) Urban Heat Island/Cool Cities Program – Since ozone forms at higher temperatures, the purpose of this strategy is to keep the city as cool as possible, through vegetation ,cool roofing and light colored pavement. Houston has attempted to get SIP credit for UHI mitigation, but modeling is difficult and EPA has not recognized the validity of those models.		
♦	51) Municipal compliance with Int'l Energy Conservation Codes (IECC)	0.5 tpd NOx ⁱ	
♦	52) Industrial/Commercial/ Residential compliance with IECC – Consider expanding EE codes		
	Point Source Strategies	Emission Reduction	Cost Estimate
	52) Earlier shut down of Mission Plant		
	53) Support City Public Service reduction of NOx emissions of all power plants by 50% by 2005	77,440 lbs/day NOx by 2007	
	54) Examine the potential for future point source reduction strategies - Application of control strategies beyond those required by the state may be possible.		
	55) Demand-side management for utilities		

ⁱ DFW Ozone Control Strategies, NCTCOG. <http://www.dfwcleanair.com/ozone/102299/strategies.html>

ⁱⁱ Alamo Area Council of Governments; Emission Reduction from 2007 On Road Emissions

ⁱⁱⁱ Valero, ULSD workshop notes, January 30, 2003

^{iv} Alamo Area Council of Governments, MOBILE6 analysis of a fleet of 10,000 HDDV

^v Alamo Area Council of Governments, Economic Analysis of Alternative Fuel Programs, Sept. 2002

^{vi} Alamo Area Council of Governments, Fuel analysis based on 5,000 vehicles, September 2002.

^{vii} Alamo Area Council of Governments, Alternative fuels cost per ton conversion with 10 year program implementation, May 2003

^{viii} Alamo Area Council of Governments, IM Program Emission Reduction Calculation, May 2003

^{ix} Alamo Area Council of Governments, Cost estimates of various I/M programs, August 2001

^x Alamo Area Council of Governments, RVP Reduction Calculations, May 2003

^{xi} Alamo Area Council of Governments, Emission reduction for San Antonio MSA, October 2002

^{xii} Alamo Area Council of Governments, Stage 1 Cost Effectiveness Calculations, April 2003

^{xiii} Alamo Area Council of Governments, Emission reduction calculations for speed limit reduction, April 2003

^{xiv} Alamo Area Council of Governments, Emission reduction for GSE/APU/AGE in Bexar Co., Aug. 2001

^{xv} Alamo Area Council of Governments, Emission Reduction for SAMSA of commercial and residential lawn mowing equipment, August 2001

^{xvi} Alamo Area Council of Governments, 85% reduction (as done by CARB) in consumer product emissions in the MSA

Appendix B

AACOG Air Quality Outreach Efforts 2003

AACOG Air Quality Outreach Efforts 2003

1. Television

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
AACOG Region Show	Clean Air Plan/Early Action Compact	Patrick Heath - AIR Co. Al J. Notzon, III - AACOG Peter Bella - AACOG Dorothy Birch - AACOG	1/7/2003	Region Show Audience
News Piece	Air Quality Health Alerts, Jennifer Broome's participation in EPA National Air Quality Conference	Dorothy Birch, AACOG Jennifer Broome, WOAI TV	2/3/2003	General Public via WOAI
News Piece	Clean Air Plan/Early Action Compact, Public Meeting and Emissions Testing	Dorothy Birch, AACOG KENS TV	2/22/023	General Public via KENS
AACOG Region Show	Ozone Season Kickoff	Al J. Notzon, III, AACOG Dorothy Birch, AACOG Rebecca Gray, American Lung Association	3/8-29/2003	Region Show Audience
AACOG Region Show	Hike & Bike for Health Month	Al J. Notzon, III, AACOG Scott Ericksen, MPO William Hudson, San Antonio Wheelmen Lynn, Texas Wanderers	4/1/03	Region Show Audience
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG Colin Jackson, KENS TV	5/2/03	General Public via KENS
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG John Honore, KSAT TV	5/2/03	General Public via KSAT

AACOG Air Quality Outreach Efforts 2003

1. Television

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG (provided info by phone) Selena Chan, WOAI TV	5/2/03	General Public via WOAI TV
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG (provided info on Spanish speaker for interview by phone) Martha Solis, KWEX	5/2/03	General Public via KWEX TV
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG James Lozada, News 9 San Antonio	5/5/03	Cable Subscribers via News 9
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG (provided info on smoke event by phone) Marissa, KABB	5/5/2003	General Public via KWEX TV
News Piece	Mexican Smoke Event	Dorothy Birch, AACOG Steve Linscomb, WOAI	5/6/03	General Public via WOAI TV
News Piece	Does Mexican Smoke contain pesticides?	Dorothy Birch, AACOG Randy Escamilla, WOAI	5/16/03	General Public via WOAI TV
News Piece	Air Quality	Dorothy Birch, AACOG Colin Jackson, KENS TV	5/16/03	General Public via KENS
News Piece	Air Quality Health Alerts, Clean Air Plan	Dorothy Birch, AACOG Jonathan, News 9 San Antonio	6/2/03	Cable Subscribers via News 9

AACOG Air Quality Outreach Efforts 2003

2. Radio

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
News Brief Resulting in two taped interviews	Public Meeting: Clean Air Plan Update	Dorothy Birch, AACOG Bud Little, WOAI	1/16/2003 (sent) 1/21/2003 (int) 1/22/2003 (int)	General Public via WOAI
Interview	Early Action Compact	Dorothy Birch, AACOG KTSA	2/3/2003	General Public via KTSA
Interview	Possible Effects of Toyota on Air Quality	Dorothy Birch, AACOG Bud Little, WOAI	2/5/2003	General Public via WOAI
Radio Program	Air Quality Issues, Ozone Season Kickoff	Mayor Adam Cork, New Braunfels KGNB	3/26/2003	General Public via KGNB
Community Affairs Program	Ozone Season, Air Quality Health Alerts	Dorothy Birch, AACOG Kelley Kendall, Cox Radio	3/30/03 (aired)	General Public via KISS and KSMG radio
Community Affairs Program	Ozone Season, Air Quality Health Alerts, Air Quality, Car Maintenance	Dorothy Birch, AACOG Meghan Bishop, Cox Radio Stations (will air on all seven stations)	3/31/03 (taped) aired 4/20/03	General Public via KISS, KSMG, KKYX, KCYY, KONO AM/FM, and KCJZ
Interview	Start of Ozone Season, Air Quality Issues	Dorothy Birch, AACOG Bud Little, WOAI	4/1/2003	General Public via WOAI
Community Affairs Program	Hike & Bike for Health Month, Alternate Commuting, Air Quality	Dorothy Birch, AACOG Scott Ericksen, MPO Meghan Bishop, Cox Radio Stations (will air on all seven stations)	4/27/03 (aired)	General Public via KISS, KSMG, KKYX, KCYY, KONO AM/FM, and KCJZ
Interview	Clean Air Plan Update	Dorothy Birch, AACOG Bud Little, WOAI	4/28/2003	General Public via WOAI
Interview	Mexican Smoke Event	Dorothy Birch, AACOG Colin Jackson, KENS RADIO	5/2/03	General Public via KENS

AACOG Air Quality Outreach Efforts 2003

2. Radio

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Interview	Mexican Smoke Event	Dorothy Birch, AACOG Brent Boller, KTSA	5/5/2003	General Public via KENS
Interview	Mexican Smoke Event	Dorothy Birch, AACOG Jim Forsyth, WOAI	5/5/2003	General Public via WOAI
Interview	Mexican Smoke Event Update	Dorothy Birch, AACOG WOAI	5/6/2003	General Public via WOAI
Community Affairs Program	Air Quality, AQHAs, AQI	Dorothy Birch, AACOG Aurora Cantu, KZEP	5/20/2003	General Public via KZEP

3. Newspaper

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Article for Clean Air Mayors	Clean Air Plan/Early Action Compact	Leilah Powell, COSA Peter Bella, AACOG	1/2003	U.S. Conference of Mayors
Interview contributing to an article	Clean Air Plan - next steps	Peter Bella, AACOG Chris Anderson, Express-News	1/5/2003	General Public via distribution of Express- News
News Brief resulting in a News Roundup Article	Public Meeting: Clean Air Plan Update	Dorothy Birch, AACOG San Antonio Express-News	1/16/2003	General Public via Express- News distribution
News Article	Cleaner Diesel Arrives in SA	Dorothy Birch, John Quebe, & Peter Bella, AACOG Bill Greehy, Valero Ximena Copa-Wiggins, TXDOT Renee Green, Bexar County Chris Anderson, SA Express-News	2/12/2003	General Public via Express- News distribution
News Article	Public Meeting: Clean Air Plan Update	Bill O'Connell, Seguin Gazette-Enterprise	2/23/2003	General Public via newspaper distribution

AACOG Air Quality Outreach Efforts 2003

3. Newspaper

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Neighborhood Resource Center Community Calendar March-April	Public Meetings, Ozone Season Kickoff	Dorothy Birch, AACOG Art de los Santos, Neighborhood Resource Center	3/1/2003	Neighborhood Groups and Associations
Region Newsletter Article	Health Alert: Ozone Season Begins April 1	Dorothy Birch, AACOG Tiffany Pickens, AACOG	3/1/2003	AACOG Region Newsletter Subscribers
News Article	Meeting to 'clear the air' on plan	Dorothy Birch, AACOG Ron Maloney, NB Herald-Zeitung	3/19/2003	General Public via newspaper distribution
News Roundup Article	Public Meeting: Clean Air Plan Update	Dorothy Birch, AACOG San Antonio Express-News	3/19/2003	General Public via Express-News distribution
Review of San Antonio Environmental Network Meeting Presentation	Air Quality and the Clean Air Plan	Dorothy Birch, AACOG Peter Bella, AACOG Greg Pasztor, S.A. Environmental Network Bexar Tracks Editor	3/15/2003	Bexar Audubon Society Members
News Article	Kids reveal ozone findings at health fair	Stephen Dove, Express-News Nancy Stamatakos, Rahe Primary School Dorothy Birch, AACOG	3/26/2003	General Public via Express-News distribution
News Article	Air quality subject of area events	Dorothy Birch, AACOG Bill O'Connell, Seguin Gazette	3/26/2003	General Public via newspaper distribution
News Article	Officials prepare for ozone season	Dorothy Birch, AACOG Bill O'Connell, Seguin Gazette	3/28/2003	General Public via newspaper distribution
News Article	Emissions testing could be part of strategy	Dorothy Birch, AACOG Bill O'Connell, Seguin Gazette	4/1/2003	General Public via newspaper distribution
News Article	Carpools gaining ground It saves big bucks, helps the environment and cuts out plenty of stress.	Dorothy Birch, AACOG Rene Guzman, Express-News	4/1/2003	General Public via Express-News distribution

AACOG Air Quality Outreach Efforts 2003

3. Newspaper

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
News Article	Ozone Kickoff raises environmental awareness	Dorothy Birch, AACOG Bill O'Connell, Seguin Gazette	4/1/2003	General Public via newspaper distribution
News Article	"Air Quality 101: The basics of smog and your health" - featured AQHA logo	Edmond Ortiz, Prime Time Newspapers Dorothy Birch, AACOG	4/3/2003	General Public via distribution of Metrocom Herald
News Article	"Millikin takes over air quality panel" - also mentions 4/12 public meeting	Edmond Ortiz, Prime Time Newspapers	4/3/2003	General Public via distribution of Metrocom Herald
Inset Box w/ Photo	"Free Plants for All", Ozone Season Kickoff	Edmond Ortiz, Prime Time Newspapers	4/3/2003	General Public via distribution of Metrocom Herald
News Article	Seguin council appoints Riley to air committee	Bill O'Connell, Seguin Gazette-Enterprise	4/4/2003	General Public via distribution of Seguin Gazette-Enterprise
News Piece	Public Meeting: Clean Air Plan Update to be held in Seguin	Ron Maloney, New Braunfels Herald-Zeitung Dorothy Birch	Week of 4/1/2003	General Public via distribution of New Braunfels Herald-Zeitung
News Article	Public Meeting: Clean Air Plan Update to be held in Seguin	Ron Maloney, New Braunfels Herald-Zeitung Dorothy Birch	4/9/2003	General Public via distribution of New Braunfels Herald-Zeitung
News Article	American Lung Association State of the Air 2003	Dorothy Birch, AACOG Chris Anderson, San Antonio Express-News	5/1/2003	General Public via distribution of the San Antonio Express-News
Newsletter Article	Air Quality and Your Health	Dorothy Birch, AACOG J.D. Cozort, Oxbow News Newsletter	5/1/2003	Oxbow Community Residents

AACOG Air Quality Outreach Efforts 2003

3. Newspaper

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
News Article	Mexico fires again cited as cause of area's haze	Chris Anderson, San Antonio Express-News	5/3/2003	General Public via distribution of the San Antonio Express-News
Air Quality Warning (Page 2 of Metro Section)	Particulate Matter/Smoke pollution warning	Dorothy Birch, AACOG Chris Anderson, San Antonio Express-News	5/9/2003	General Public via distribution of the San Antonio Express-News
Air Quality Health Alert (Metro Section Masthead)	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/18/2003	General Public via distribution of the San Antonio Express-News
Air Quality Health Alert (Metro Section Masthead)	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/23/2003	General Public via distribution of the San Antonio Express-News
News Article	Gasping for Breath - Citizens at Odds with Clean Air Strategy	Dorothy Birch, AACOG Margarette Chavez, Wilson County news	5/28/2003	General Public via distribution of the Wilson County News
Air Quality Health Alert (Metro Section Masthead)	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/28/2003	General Public via distribution of the San Antonio Express-News
Air Quality Health Alert (Metro Section Masthead)	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/29/2003	General Public via distribution of the San Antonio Express-News
News Article	Clean-air strategies cautiously approved	Chris Anderson, San Antonio Express-News Peter Bella, AACOG	5/29/2003	General Public via distribution of the San Antonio Express-News
News Article	Today third straight air health alert day	Dorothy Birch, AACOG Ron Maloney, NB Herald-Zeitung	5/30/2003	General Public via distribution of New Braunfels Herald-Zeitung

AACOG Air Quality Outreach Efforts 2003

4. Governmental, Business, or Civic Group Presentations

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
National Institute of Environmental Health Sciences Health Forum	Clean Air Plan/Early Action Compact	Peter Bella, AACOG Sam Sanchez, SA Metro Health District	1/8/2003	NIEHS representatives, local environmental health professionals
EPA National Air Quality Conference - Coordination of a Session	Welcome Address	Mayor Ed Garza, City of San Antonio Steven Schauer, City of San Antonio Dorothy Birch, AACOG Alison Davis, EPA	2/3/2003	Air quality outreach and modeling professionals from across the nation.
EPA National Air Quality Conference - Coordination of a Session	Television Coverage of Air Quality, AQHA's, and the AQI	Dorothy Birch, AACOG Jennifer Broome, WOAI TV Alison Davis, EPA	2/3/2003	Air quality outreach and modeling professionals from across the nation.
EPA National Air Quality Conference - Moderation of a Session	Air Quality Outreach and the EAC	Dorothy Birch, AACOG Deb Elmore, EPA	2/4/2003	Air quality outreach professionals from across the nation.
San Antonio Environmental Network Meeting Presentation	Air Quality and the Clean Air Plan	Dorothy Birch, AACOG Peter Bella, AACOG Greg Pasztor, S.A. Environmental Network	2/4/2003	Citizens
Texas Independent Automotive Association Monthly Meeting	Air Quality and the Clean Air Plan	Dorothy Birch, AACOG Debbie Van Den Berghe and Mike Koebke, TIAA	2/20/2003	Automotive technicians and shop owners
Leon Valley Earthwise Living Day Presentation	Air Quality and the Clean Air Plan	Dorothy Birch, AACOG Chris Riley, LV Earthwise Living Day Committee	2/22/03	Leon Valley Residents
District 9 Neighborhood Alliance	Air Quality and the Clean Air Plan	Peter Bella, AACOG Art Downey, District 9 Neighborhood Alliance	2/26/2003	Citizens

AACOG Air Quality Outreach Efforts 2003

4. Governmental, Business, or Civic Group Presentations

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Monthly Meeting of the San Antonio Bar Assoc. Environmental Law Section	Early Action Compact Regarding Clean Air Act Compliance in Texas	Peter Bella, AACOG Judy Gray, San Antonio Bar Association Environmental Law Section	3/21/2003	San Antonio Bar Association Environmental Law Section
Seguin City Council Workshop Session	Air Quality and the Clean Air Plan	Peter Bella, AACOG Councilman Ernest Hernandez, City of Seguin Dorothy Birch, AACOG	3/26/2003	City Council of Seguin
C-03A Texas Master Naturalist Class	Human Impact on our Environment, and Air and Water Quality Issues	Peter Bella, AACOG Jay Milikin, AIR Co. Dr. Barron Rector of Texas A&M Ernie Lee, Master Naturalists	4/1/2003	Master Naturalists and Master Naturalist students
Senior Citizens Council of Bexar County	Air Quality, Air Quality Health Alerts, Air Quality Index, Clean Air Plan	Dorothy Birch, AACOG Reed M. Pace, SCCBC	4/11/2003	Senior Citizens
Air Force Village/Valley-Hi North Neighborhood Association	Air Quality, Air Quality Health Alerts, Air Quality Index, Clean Air Plan	Dorothy Birch, AACOG Ed Ramos, Valley-Hi N.A.	4/14/2003	Neighborhood Association Members, mostly Senior Citizens
Air & Waste Management Association Luncheon	Clean Air Plan	Peter Bella, AACOG Oralia S. Gomez, AWMA	5/8/2003	Air & Waste Management Professionals
Government Hill Neighborhood Association	Air Quality, Air Quality Health Alerts, Air Quality Index, Clean Air Plan	Dorothy Birch, AACOG Ruth, Government Hill N.A.	5/27/2003	Neighborhood Association Members

AACOG Air Quality Outreach Efforts 2003

4. Governmental, Business, or Civic Group Presentations

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
San Antonio Neighbors Together	Formal presentation postponed to next month - just air quality chat.	Dorothy Birch, AACOG Dominick Dina, SANT	5/29/2003	SANT Members and their Neighborhood Associations
Five Points Neighborhood Association	Air Quality, Air Quality Health Alerts, Air Quality Index, Clean Air Plan	Dorothy Birch, AACOG Stephanie Chavez, Five Points N.A.	6/3/2003	Neighborhood Association Members

5. School -Related Education

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Air Quality Poster Contest	Air Care	All Elementary Schools in the AACOG Region Dorothy Birch, AACOG	01/13/03 to 03/29/03	Grades 1-5
Air Quality Essay Contest	Air Care and Car Care	All Middle & High Schools in the AACOG Region Dorothy Birch, AACOG	01/13/03 to 03/29/03	Grades 6-12
Air Quality Poster Lessons	Ozone and Air Quality, ways to reduce air pollution	Nancy Stamatakos, Rahe Primary School Dorothy Birch, AACOG	1/15/03	All 2nd Grade Classes (~150 kids)
Air Quality Poster Lessons	Ozone and Air Quality, ways to reduce air pollution	Ms. Natasha Walton, Ogden Elementary School Dorothy Birch, AACOG	1/23/03	All 2nd Grade Classes (~150 kids)
Air Quality Poster Lessons	Ozone and Air Quality, ways to reduce air pollution	Shawn, Garrett Recreation Center Dorothy Birch, AACOG	2/6/03	Varied age students (~10 kids)

AACOG Air Quality Outreach Efforts 2003

5. School -Related Education

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Air Quality Poster Lessons	Ozone and Air Quality, ways to reduce air pollution	Ms. Diana Whitfield, Meadowcliff Recreation Center Dorothy Birch, AACOG	3/21/03	Varied age students (~10 kids)
SAWS Watershed Festival	How Air Quality Affects Water Quality, Health TNRCC environmental lesson plan guides distributed to teachers	Dorothy Birch, AACOG Greg Wukasch, SAWS	5/6-7/03	5th Grade Classes, Teachers (~300 kids)
Air Quality Commercial Lessons	Ozone, Health, and Air Quality, ways to reduce air pollution	Dorothy Birch, AACOG Adah Stock, Irving Middle School	5/13/03	6th Grade Science Classes (~150 kids)
Air Quality Lessons	Ozone, Health, and Air Quality, water quality as affected by air quality, ways to reduce air pollution	Dorothy Birch, AACOG Drew Dosier, Seguin Outdoor Learning Center	6/3/03	2nd Grade students (~60 kids)

6. Events & Public Meetings

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Public Meeting	Clean Air Plan Update	Dorothy Birch, AACOG Peter Bella, AACOG	1/22/2003	Citizens

AACOG Air Quality Outreach Efforts 2003

6. Events & Public Meetings

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Booth at City of San Antonio District 6 Health Fair	Air Quality and Your Health	Dorothy Birch, AACOG Joe Frank Picazo, Councilman Barrera's Office	1/25/03	District 6 Residents
Public Meeting	Clean Air Plan Update	Dorothy Birch, AACOG Peter Bella, AACOG	2/22/2003	Citizens
Booth at Leon Valley Earthwise Living Day	Air Quality, Commute Solutions, Solid Waste/Recycling/Composting	Dorothy Birch, AACOG Georgia Zannaras, AACOG Chris Riley, LV Earthwise Living Day Committee	2/22/03	Leon Valley Residents
Table at Environmental Awareness Family Day - Witte Museum	Air Quality and Your Health & Commute Solutions	Dorothy Birch, AACOG Lynne, Witte Museum	3/1/03	Museum Visitors
Table at Air & Waste Management Association Workshop	Air Quality Health Alerts, Clean Air Plan, Commute Solutions	Dorothy Birch, AACOG Lynn Kitchen, AWMA	3/3/03	AWMA Members
Public Meeting	Clean Air Plan Update	Dorothy Birch, AACOG Peter Bella, AACOG	3/19/2003	Citizens - esp. New Braunfels & Comal County
Ozone Season Kickoff	Ozone Season, Air Quality	Dorothy Birch, AACOG AIR Public Education Committee	3/29/2003	Citizens
Best Damn Car Show	Air Quality/Drive Clean Across Texas Booth	Dorothy Birch, AACOG Kim Perry, KISS Radio	3/30/2003	Vehicle-oriented, especially males 16+
Public Meeting	Clean Air Plan Update	Dorothy Birch, AACOG Peter Bella, AACOG	4/12/2003	Citizens - esp. Seguin & Guadalupe County

AACOG Air Quality Outreach Efforts 2003

6. Events & Public Meetings

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Public Meeting	Clean Air Plan Update	Dorothy Birch, AACOG Peter Bella, AACOG	5/20/2003	Citizens - esp. Floresville & Wilson County

7. Internet

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Website	Air Quality	Dorothy Birch, AACOG Tiffany Pickens, AACOG	Updated Weekly	General
Website	Commute Solutions	Dorothy Birch, AACOG Tiffany Pickens, AACOG	Updated Weekly	General
Web Story	Official: Tailpipe Inspections Still On the Table	Jim Forsyth, WOAI	Posted 1/22/03	General
Webpage	Air Quality	Cyberbob, WOAI Material from package produced by Dorothy Birch	Posted 2/1/03	General
Internet Newsletter Article and Webpage	Carpool to Cut Commute Costs	Dawn Cole, WOAI	Posted 3/28/2003	General
Air Quality Alert	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/18/2003	General Public via www.mysa.com
Headline Article	Today is an Air Quality Health Alert Day	Dorothy Birch, AACOG News 9 San Antonio	5/23/2003	General Public via www.news9sanantonio.com
Top Story	Air Quality Health Alert	Dorothy Birch, AACOG Michael Tholkes, woi.com	5/23/2003	General Public via www.woai.com
Air Quality Alert (top story in metro section)	Air Quality Health Alert for Ozone	Dorothy Birch, AACOG San Antonio Express-News Metro Desk	5/18/2003	General Public via www.mysa.com

AACOG Air Quality Outreach Efforts 2003

8. News Items Issued

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Newspaper Advertisement	Clean Air Plan Public Meeting - January	Dorothy Birch, AACOG	1/19/2003	General Public via: San Antonio Express-News, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
News Brief	Clean Air Plan Public Meeting - January	Dorothy Birch, AACOG	1/16/03	Regional Media
Newspaper Advertisement	Clean Air Plan Public Meeting - February	Dorothy Birch, AACOG	2/16/2003, 2/19/2003, 2/20/2003	General Public via: San Antonio Express-News, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
News Brief	Clean Air Plan Public Meeting - February	Dorothy Birch, AACOG	1/31/0, 2/19/2003	Regional Media
Newspaper Advertisement	Clean Air Plan Public Meeting - March	Dorothy Birch, AACOG	3/16/03	General Public via: San Antonio Express-News, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
News Brief	Clean Air Plan Public Meeting - March	Dorothy Birch, AACOG	3/7/03 and 3/17/03	Regional Media

AACOG Air Quality Outreach Efforts 2003

8. News Items Issued

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Newspaper Advertisement	Ozone Season Kickoff, Air Care Poster and Essay Awards Ceremony	Dorothy Birch, AACOG	3/23/03	General Public via: San Antonio Express-News, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
Newspaper Advertisement	Clean Air Plan Public Meeting - April	Dorothy Birch, AACOG	4/6/2003, 4/9/2003, 4/10/2003	General Public via: San Antonio Express-News, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
News Brief	Clean Air Plan Public Meeting - April	Dorothy Birch, AACOG	3/31/03 and 4/09/03	Regional Media
Newspaper Advertisement	Clean Air Plan Public Meeting - May	Dorothy Birch, AACOG	5-14-03, 5-15-03, 5-18-03	General Public via: San Antonio Express-News, La Prensa, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News
News Brief	Clean Air Plan Public Meeting - May	Dorothy Birch, AACOG	5/16/03	Regional Media
Air Quality Health Alert	AQHA for Ozone for 5/18/03	Isabel Chacon, AACOG Dorothy Birch, AACOG	Issued 5/17/03	Regional Media and AQHA List
AQHA Follow-Up News Release	AQHA for Ozone for 5/18/03	Dorothy Birch, AACOG	Issued 5/19/03	Regional Media

AACOG Air Quality Outreach Efforts 2003

8. News Items Issued

Type of Outreach	Subject	Contact Persons & Organizations Involved	Date	Target Audience
Air Quality Health Alert	AQHA for Ozone for 5/23/03	Dorothy Birch, AACOG	Issued 5/22/03	Regional Media and AQHA List
Air Quality Health Alert	AQHA for Ozone for 5/28/03	Dorothy Birch, AACOG	Issued 5/27/03	Regional Media and AQHA List
Air Quality Health Alert	AQHA for Ozone for 5/29/03	Dorothy Birch, AACOG	Issued 5/28/03	Regional Media and AQHA List
Newspaper Advertisement	Clean Air Plan Public Meeting - June	Dorothy Birch, AACOG	6-08-03, 06-11-03, 6-12-03	General Public via: San Antonio Express-News, La Prensa, New Braunfels Herald Zeitung, Seguin Gazette-Enterprise, Wilson County News

Appendix C

Bylaws of the Air Improvement Resources Committee

BYLAWS
AIR IMPROVEMENT RESOURCES COMMITTEE
of the
ALAMO AREA COUNCIL OF GOVERNMENTS

Article I – Committee Names

The Air Improvement Resources Committee of the Alamo Area Council of Governments, hereinafter referred to as the AIR Committee, is composed of five subcommittees. They are named:

1. The Air Improvement Resources Executive Committee, hereafter referred to as the AIR Executive Committee;
2. The Air Improvement Resources Advisory Committee, hereafter referred to as the AIR Advisory Committee; and
3. The Air Improvement Resources Technical Committee, hereafter referred to as the AIR Technical Committee.
4. The Air Improvement Resources Public Education Committee, hereafter referred to as the AIR Public Education Committee.
5. The Air Improvement Resources Off-Road Equipment Committee, hereafter referred to as the AIR Off-Road Equipment Committee.

Article II – Mission, Goals and Objectives

The mission of the AIR Committee shall include, but is not limited to, the following:

1. Facilitate the completion of the air quality studies and necessary planning activities for attainment under the new 8-hour average ozone National Ambient Air Quality Standard, hereafter referred to as the 8-hour ozone NAAQS; and
2. Develop a comprehensive emission reduction plan that will guide our region's actions to attain the 8-hour ozone NAAQS.

The goals of the AIR Committee shall include, but are not be limited to, the following:

1. Provide a list of clean air strategies and combinations which will achieve attainment within the required time frame; and
2. Work directly with the Texas Commission on Environmental Quality (TCEQ) on preparation and approval of the State Implementation Plan for our region.

The objectives of the AIR Committee shall include, but are not be limited to, the following:

1. Complete the required planning materials: transportation network emission inventory, general emissions inventory and regional photochemical modeling with clean air strategies;
2. When published, review EPA's proposed requirements and implementation of alternative air quality classification choices; and
3. Provide public information and seek public input relating to current and future measures to improve air quality.

Article III – Authority

The AIR Committee will make recommendations regarding actions and policy to the local governments represented by the AIR Executive Committee membership. The AIR Executive Committee is the planning committee for air quality planning under the Early Action Compact in the San Antonio region.

Article IV – Membership

AIR Executive Committee

The following municipal and county governments shall appoint one representative each to serve on the AIR Executive Committee. The county government representative to the AIR Executive Committee shall be an elected official serving as Judge or County Commissioner. The municipal government representative to the AIR Executive Committee shall be an elected official serving as Mayor or City Councilperson.

- Bexar County
- Comal County
- Floresville, City of
- Guadalupe County
- New Braunfels, City of
- San Antonio, City of
- Seguin, City of
- Wilson County

In addition, the following entities shall appoint one representative each to serve on the AIR Executive Committee. Their representative to the AIR Executive Committee shall serve the entity named here.

- Alamo Area Council of Governments Board of Directors (AACOG)
- Greater Bexar County Council of Cities (GBCCC)
- San Antonio / Bexar County Metropolitan Planning Organization (MPO)

These entities represent the major government organizations within the San Antonio Metropolitan Statistical Area (SA/MSA). Membership shall be extended to similar local governments brought into the San Antonio Metropolitan Statistical Area through US Census redesignations of the SA/MSA boundary. Chair and vice-chair positions will be for a one-year term of office. The overall mission of this committee, its membership composition, jurisdiction and authority should be reassessed at least once by this committee after the first air quality implementation plan has been approved by the Early Action Compact signatories and has been included in the State Implementation Plan.

Decision-making is to be by general consent. On any question determined by a majority vote upon which an Executive Committee member dissents, said dissenting member may request reconsideration of said question by a weighted vote. The Chairman shall grant such request for reconsideration. All Executive Committee members shall be entitled to vote. The votes of such members, shall be weighted on the basis of the population represented by such members and the population of each general-purpose government shall be the figure used in the latest decennial United States Census Bureau census.

- An Executive Committee member representing a general-purpose local government shall cast the number of votes equal to the total population of that government.

In consideration of a question by weighted vote, a majority vote upholding the previous action of the Committee shall decide the question. A majority vote against the previous action of the Committee shall have the effect of tabling the question without a decision.

AIR Advisory Committee

The AIR Advisory Committee acts as liaison between the AIR Executive Committee and the greater citizen sectors, both public and private. The membership of the AIR Advisory Committee will include the AIR Executive Committee membership. AIR Advisory Committee membership invitations will be extended among the following groups and individuals, and others as determined by the Executive Committee, with all membership nominations made by members of the AIR Executive Committee and final approval for membership by vote of the AIR Executive Committee:

- Business representatives
- Environmental groups
- Education agencies
- Transportation organizations
- Utilities
- Industry representatives
- Chambers of Commerce
- Health organizations
- Neighborhood organizations
- Other elected officials
- Minority organizations

AIR Technical Committee

The AIR Technical Committee, comprising staff members or representatives of the following local planning agencies along with one alternate, will be appointed by the named agency to provide recommendations and technical assistance on air quality technical issues to the AIR Executive Committee for the planning meetings held by the AIR Executive Committee. The AIR Executive Committee may designate other agencies to be included, with final approval by vote of the AIR Executive Committee.

AACOG

Bexar County

City Public Service

Comal County

Floresville, City of

Guadalupe County

Metropolitan Health District

Metropolitan Planning Organization

New Braunfels, City of

San Antonio, City of

Seguin, City of

Texas Commission on Environmental Quality (ex-officio)

Texas Department Of Transportation (TxDOT) District Office

United States Environmental Protection Agency (ex-officio)

VIA Metropolitan Transit

Wilson County

Article V – Rules and Order of Business

Procedure

Meeting Times. Meetings of the Executive, Advisory and Technical committees shall be held on a regular basis at the AACOG Boardroom Room, 8626 Tesoro, Suite 100, San Antonio, Bexar County, Texas or at various other times and places as the committee may wish.

- In general, the AIR Executive and AIR Advisory Committees meet together at 9:00 a.m. on the 4th Wednesday of the month.
- In general, the AIR Technical Committee meets at 1:30 p.m. on the 2nd Monday of the month.

Rules of Order. The Chairman elected to a certain committee shall preside at all meetings of that certain committee and shall conduct same according to Roberts Rules of Order Revised, providing that said rules are applicable and not inconsistent with these bylaws.

Quorum. Forty percent (40%) of the voting members of a committee being called must be in attendance at a meeting to constitute a quorum. Non-voting agenda items may be considered until a quorum is met.

Amendments

1. These bylaws may be amended at a regular meeting of the AIR Executive Committee through a majority vote of the Executive Committee membership (either regular or alternate members) present.
2. Written notice of proposed amendment(s) shall be mailed to the Executive and Advisory Committees members at least five (5) days prior to the meeting.
3. Proposed amendment(s) shall be read at the meeting and voted on.

Decorum

1. **Members of the Committees.**
 - a. A member of any of the committees who wishes recognition shall address the presiding officer, but shall not proceed with remarks until recognized and named by the chair. Remarks shall be confined to the question before the committee.
 - b. While a member of the committee is speaking, other members shall not hold private discourse or in any manner interrupt the speaker. In all discussions, disrespectful language and personalities shall be avoided.
 - c. Every member of the committee who is present when a question is stated by the chair shall vote thereon unless excused by the committee or unless the member is directly or particularly interested in the question, in which case the member shall not vote.
 - d. No member of the committee shall make official requests for information on behalf of any of the committees without specific authorization by the committee in question. Such requests shall be authorized only by action of the committee and shall be transmitted in writing and signed by the Committee Chair or Vice-Chair.
2. **Citizens' participation.** The following rules shall be in force for persons in attendance at all committee meetings, unless otherwise noted:
 - a. Any person wishing to address the committee during "Citizens To Be Heard " shall approach the lectern and give his/her name and address before speaking. No

personal attacks shall be allowed by any speaker. All speakers shall be limited to three minutes, and no one group or organization shall be allowed more than 10 minutes to speak on any one specific issue. The maximum time available to all speakers under "Citizens To Be Heard " shall be 24 minutes total.

- b. If a person wishes to speak on a matter which is an action item on the Executive Committee agenda, that person shall approach the lectern and give his/her name and address. Each person shall be allowed three minutes to address the committee on that particular agenda item, and there shall be a cumulative limit of 12 minutes for all those who speak in favor of an issue, and 12 minutes for all those who speak in opposition of an issue. No person shall be allowed to address the committee more than once until all persons who would like to address the committee regarding any particular issue have had the opportunity to do so. These same rules may apply to speakers at officially called public hearings, workshops, special meetings or regular meetings at the discretion of the Chair of such meetings, and where such rules do not conflict with rules established for those public hearings, workshops, special or regular meetings.
- c. All persons wishing to speak on a matter which is an action item on the Executive Committee agenda shall either address that item during "Citizens To Be Heard" or during the time allotted for that item for speakers on the agenda, but not both.
- d. Persons attending committee meetings shall remain seated except the person at the lectern. Persons in attendance shall not carry signs, placards or other items which could block the view of those behind them or be disruptive to the proceedings. No person attending any committee meeting shall delay the proceedings or refuse to obey the orders of the presiding officer.
- e. Disturbances, transgressions of the rules or disorderly conduct in the committee chamber may cause the transgressor to be removed from the chamber. The chairman shall exercise control over persons who disrupt the meeting in the following ascending order of action:
 - i. Call the person to order, advising that person of the infraction.
 - ii. Advise the person that the infraction must cease immediately or the person will be ordered to leave the meeting.
 - iii. Order the person to leave the meeting. If the offending person is a member of the committee, the chairman shall call for a vote on the expulsion of that member from the meeting, and such vote requires a majority for adoption.
- f. Citizens are encouraged to attend committee meetings. However, the number admitted shall be limited to the fire safety capacity of the committee chambers as determined by the fire chief or his designee. If the capacity is surpassed the committee may adjourn the meeting and move its proceedings to a location that will accommodate a larger number of participants.

Approved by the Air Improvement Resources Executive Committee
on April 23, 2003.